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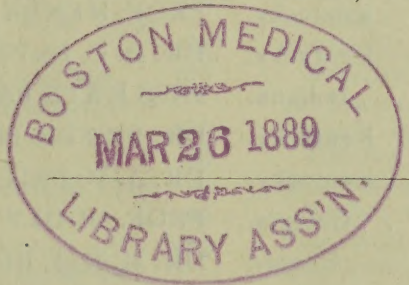
PROGRESS

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PROGRESS

A Monthly Magazine for Students and Practitioners of Medicine.

"I HOLD EVERY MAN A DEBTOR TO HIS PROFESSION; FROM THE WHICH AS MEN OF COURSE DO SEEK TO RECEIVE COUN- TENANCE AND PROFIT, SO OUGHT THEY OF DUTY TO ENDEAVOUR THEMSELVES, BY WAY OF AMENDS, TO BE A HELP AND ORNAMENT THEREUNTO. THIS IS PERFORMED, IN SOME DEGREE, BY THE HONEST AND LIBERAL PRACTICE OF A PROFES- SION; WHEN MEN SHALL CARRY A RESPECT NOT TO DESCEND INTO ANY COURSE THAT IS CORRUPT AND UNWORTHY THEREOF, AND PRESERVE THEMSELVES FREE FROM THE ABUSES WHEREWITH THE SAME PROFESSION IS NOTED TO BE INFECTED; BUT MUCH MORE IS THIS PERFORMED, IF A MAN BE ABLE TO VISIT AND STRENGTHEN THE ROOTS AND FOUNDATION OF THE SCIENCE ITSELF; THEREBY NOT ONLY GRACING IT IN REPUTATION AND DIGNITY, BUT ALSO AMPLIFYING IT IN PROFESSION AND SUBSTANCE."—BACON.

VOL. II.

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No. 1.

GENERAL MEDICINE.

PERINEPHRITIC ABSCESS. ITS SIMILARITY TO TYPHOID FEVER.

BY
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COLUMBUS, IND.

Read to the Mitchell Dis-
trict Medical Society, of
Indiana, July 1, 1887.

In December, 1869, I was called to see a lad, aged 15, of rather slender build, and above the medium height. I found him suffering with severe lumbar pains, high fever, rapid pulse, and dry skin. Tongue covered with a light fur, and red at tip and borders. I learned that about eight days previous, while skating on the ice, he lost his balance and fell, and in his endeavors to maintain his equilibrium he wrenched his back and was taken with what he described as a severe stitch in the back. He however was able to walk around for a few days, but his walking was attended with great difficulty. The pain induced by motion became so severe that he was compelled to keep quiet in a recumbent posture. It was at this time when I was called to see him. The case rapidly grew worse from day to day, and assumed many of the characteristic symptoms of typhoid fever. The tongue became brown and fissured, the bowels tympanitic, temperature from 101° to 104° , pulse 110 to 130. Patient restless and delirious a great portion of the time. Lumbar pains and headache remained severe and required the administration of anodynes daily. Constipation was at first troublesome but gave way to a persistent diarrhea, which was a

troublesome factor in the case. Patient could only be turned in bed with the aid of the sheet, the least irregular movement of the body being attended with excruciating pain.

After the lapse of about three weeks I noticed some swelling over the region of the left kidney, which was quite a tender point. The swelling gradually increased until it extended to the lower angle of scapule. After some time fluctuation became apparent, and the urine contained pus. I decided to make an incision in the back at the most dependent portion of the fluctuation, which was over the region of the left kidney, but was dissuaded from doing so by the influence of a couple of medical gentlemen who had called in my absence and enlightened the family by telling them it was only a case of typhoid fever, and the swelling a result of the posture. After a few days' delay I was permitted to make an opening to verify my diagnosis of nephritic abscess. I made a puncture about three fourths of an inch deep, and to my great discomfiture found no pus, which fact led the friends to distrust my diagnosis. I left the house and felt that I had lost my footing, but as the boy who must have meat, it was a groundhog case, I must have pus. On the next morning I returned, and after long persuasion I was granted another trial. I gauged my lance at one and a half inches and made the puncture, which to my great relief afforded me pus. I drew off one and a half quarts, which contained many long muscu-

lar fibres and sheaths of muscles. The patient soon began to improve, and the alarming symptoms subsided. The opening discharged a large quantity of pus daily for some time, while a considerable amount was passed with the urine. Sometimes the fluid which was voided by the urethra was principally pus. The pus from the opening in the back had the odor of urine. After the lapse of about two months the pus had almost ceased to flow from both the opening in the back and per urethra, but the urine continued to discharge through the opening in the back until the year 1874, four years after the acute attack, at which date the fistula closed without any interference on the part of surgery. During the four years the patient wore a belt with a pad attached over the fistula to absorb the urine. He is now a farm hand and enjoys good health. During the time the fistula was open he chopped cord wood and did other heavy farm work.

The diagnosis of nephritic abscess, or perinephritic abscess is sometimes quite difficult on account of its similarity to typhoid fever. The pulse, temperature, condition of tongue, delirium and pain in head and back with the mental condition of the patient are calculated to mislead one unless the previous history of the case and a careful inspection of the body be made.

In lumbar abscess the pain is much the same, but we lack the general severity of the symptoms. The swelling becomes apparent much sooner and the pain is not so deep seated and does not produce so much general disturbance of the system. In 1868 I saw a case brought before the class in a medical college, and lectured on for several days, to edify the class on the course of typhoid fever. It was given as a typical case. The patient died and the class was called to the hospital to see the pathology of typhoid fever, when upon opening the abdomen one kidney was found enormously swollen, and upon opening it was found to contain about a pint of pus. Some of the professors found some ulcers in the bowels characteristic of

typhoid fever, but they failed to pass them for our inspection. It remains a question with us yet as to their existence.

RHEUMATIC ELEMENT IN CHOREA.

BY
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[*Archives of Pediatrics.*]

It can be shown by many illustrations that the study of children's diseases gives material aid to pathology by exhibiting the birth kindred of disorders which in their later development have little in common. And

if this be true of childhood generally, it is especially true of that period which immediately follows infancy, when, with the first awakening to an external world, each day is bringing new experience, teaching fresh lessons, and widening the field of consciousness and of observation. That short, eventful interval between two years old and six, or thereabouts, in witnessing the conversion of the sluggish, insensible infant to the sensitive, emotional child, the most active and restless of the race, exhibits the most rapid and profound series of changes that life affords. And accordingly its pathological, like its physiological, history is full of incident; many forms of diseases are, in fact, special to it, and none can be said to have been fully observed until traced back to its source in early childhood.

Considerations like these make it always matter of extreme interest when any morbid condition whatever that has a well-recognized name in nosology is met with, so to speak, in its cradle, at a time of life when we are not accustomed to see it. Such exceptional occurrence demands of every candid mind a re-reading of the pathology of the affection in question with a view to testing its validity under its new aspect. An opportunity of this sort has lately happened to me in the case of corea. I have endeavored to deal with it in the spirit I mention; and in so doing have reached conclusions which, to me at least, are new and surpris-

ing. What those conclusions are, on what evidence they are based, and by what hypothesis they may possibly be explained, shall now be stated with as much brevity as is possible and with careful separation of fact from theory.

In November, 1886, I had the good fortune to secure under my charge at the Hospital for Sick Children, Great Ormond Street, a child suffering from chorea at an unusually early age for that disorder. The following is an abstract from the very careful notes of Dr. Penrose, Medical Registrar:

Mabel J., aged three years and six months, a well-nourished, intelligent child, born at full time, and suckled fourteen months, was admitted, November 15, owing to "loss of use of hands and speech," when the following history was obtained from the mother: The patient was one of four, two of whom had died in infancy of convulsions. She had always been delicate and subject to bronchitis, but had had no definite illness, except chicken-pox when a year old. Three weeks ago she was noticed to be feverish, complained of abdominal pain, and had spat up some green, blood-streaked mucous. A week before admission she "fainted," and the mouth and hands began to twitch, especially on the right side. These movements daily increased, and were shortly followed by thickness and difficulty of speech. There had been no delirium, nor squint, nor discharge from either ear. The motions had been slimy and blood-streaked for three months, and thread-worms had been passed. The night before the attack mentioned above the child had been frightened by a quarrel between her parents.

In the family history the most significant fact was that the mother had had fits in her childhood (from nine to sixteen) in which she would bite her tongue. There was no rheumatic or mental disease on either side, and the father was a strong, healthy, laboring man.

On admission, the child is found to have

slight choreic movement of right hand and arm, with imperfect control of right leg, so that she reels to that side in walking. When raising herself from the recumbent position she makes no use of the right side, and with difficulty manages to pick up a piece of paper with the right hand. A loud systolic murmur is heard just outside the nipple, conducted round axilla, and with feeble thrill. Occasional rhonchi are audible over both lungs, and there is deficient resonance anteriorly over right chest from second to fourth rib, with bronchial breathing. Temperature at this time normal; pulse 124, uneven; the child cheerful and without conscious dyspnoea. The optic disks appear normal.

In the progress of the case the choreic movements increased somewhat, and were found to concern the left hand as well as the right, though in less degree, the legs being almost quiet. On the second week of admission a slight graze, as of pericardial friction, was detected, but of this we can not speak with certainty. The patient was at this time (November 24) bright and happy, with intelligence beyond her years.

On the 8th of December, three weeks, that is, after admission, the patient in the interval having almost lost all sign of chorea, the back of the right hand was observed to be swollen and painful. Moreover, a nodule was found in the inner side of right olecranon. The child was sweating as to its palms and soles, but as yet there was no rise of temperature. The tongue furred, white, and dry. The second sound of the heart was now reduplicated, the systolic murmur loud and rough, and the cardiac action exerted and uneven. The following day the left wrist was also painful, and on the 17th of December a second nodule appeared on the left elbow.

Four days after this last note, namely, December 21, fever set in (103.6°) and the child was repeatedly sick. Respirations were over 40; pulse, 140-160. Some albumen, with epithelial and hyaline casts

and red discs, was present in the urine. (These latter signs, together with some redness of the knees and the appearance on the night of the 21st of a blotchy rash, which disappeared by the morning, gave rise to the suspicion of scarlatina; but the rash was not characteristic, nor was it followed by desquamation.) From this time to death the decline was rapid, vomiting persisted, there was slight oedema of feet, pulse slowed to 40, was of very high tension and irregular. Evening pyrexia 100° – 102° . Latterly the child had recurring fits, especially when touched, but on ophthalmic examination nothing abnormal was found in either fundus.

Clicking râles were now audible with both inspiration and expiration. The heart's area was increased, its apex-beat still in the fourth space. Two days before death, more dulness, with deficient respiration, having been found in the right infra-axillary region, aspiration was made, and five and one half ounces of slightly-turbid fluid withdrawn. When last examined the urine contained a tenth albumen and a few epithelial casts. The child died in convulsion.

No post-mortem examination could be obtained.

Imperfect as is the above account, owing to the absence of post-mortem examination, its main features are sufficiently definite. These concern, first, the tender age of the child; second, the intimate and, indeed, inextricable association of chorea with rheumatism. As regards the first point, it will be admitted that chorea seldom occurs under six years of age, and is very uncommon between three and four. Searching the records of our Hospital for Sick Children, I can find but two examples to match with the one just quoted—a boy and a girl, one three years and seven months, the other three years and nine months; both, therefore, senior to the child in question. Moreover, taking one hundred and seventy-seven cases of chorea which have been under my own observation, only seven

—one boy and six girls—were under six; while of seventy-one cases recorded by Dr. Dickinson, only three—two boys and one girl—are under six. Thus we have but ten examples of chorea occurring in children under six out of a total of two hundred and forty-eight.

If to these numbers be added Dr. Pye Smith's record of one hundred and fifty cases of the same disorder, these furnish but three patients—two boys and a girl—under six. So that the grand total of three hundred and ninety-eight gives but thirteen under six years old—five boys and eight girls. Of these thirteen, two children of Dr. Pye Smith's list are under three years old. They are the sole rivals in juvenility of Mabel J., and of nearly four hundred examples. It may even be said that they outrival her in a degree which is itself suspicious, in the wide interval of time which is left void between these infants and the children next above them. There is a world of difference between the infant under three and the child more than six months older; and in the absence of further particulars it is legitimate to make question as to the real title of motor disorder in babies to be ranked as chorea.

However that may be, it is at least apparent that three years and six months is an unusually early age for chorea. On that account it is important to note that this child of ours, who thus exhibits, after mental disturbance, a nervous disorder which is, so to speak, beyond her years, was noticed to be more intelligent and observant than the run of children of the same age. It has been asserted that choreic patients, as a rule, are backward and stupid. The statement I believe to be inaccurate; at any rate we have here an example of the affection resulting from fright in a child unusually intelligent and unusually, almost unprecedently, young to be the subject of such an affection.

And what may be said of the chorea in this patient may be said also of the rheu-

matism which was so intimately connected with it. It is true that cardiac murmurs, assumed to be rheumatic, are met with in very young children; true, also, that mere babies exposed to cold will get transient joint-pain and stiffness, whether rheumatic or not. But unequivocal polyarthritis such as this child had, and with characteristic blush at the joints, pyrexia, nodules, endocarditis, is assuredly rare in very young children. In four hundred cases of rheumatism collected by Dr. Pye Smith, only two were as young as five. None were under that age. M. Roger, with his vast experience of children and decided views as to the intimate union between rheumatism and chorea, has met with the former disease but once at three years old, and but once at two.

In the practice of the Hospital for Sick Children during the last three years I have admitted into my ward (of twenty-one beds, boys and girls) eight children—three girls and five boys—under six classed as rheumatism, the youngest two years and eleven months, the four next youngest between three and four. In the ward of my colleague, Dr. Cheadle (for—the same number of beds—boys only), during three years and a half six cases of rheumatism were received, the youngest three years and seven months, the next youngest three years and nine months, the rest all over four and a half. In the third ward (for—the same number of beds—girls only) my colleague, Dr. Barlow, and his predecessor, Dr. Gee, admitted but two patients under four regarded as rheumatism in over four years. The youngest was two years and six months, the other three years and seven months. The five next youngest are all over four.

Taking the sum of admissions during the times specified (amounting in the aggregate to about three thousand five hundred patients), we get twenty-one children with rheumatism under five years of age. Beginning with the youngest and working upwards, age and sex are represented as follows:

The youngest of all is a girl two years and a half old; the next youngest is also a girl of two years and eleven months; the next is again a girl of three years and one month; then comes another girl three years and five months; and (probably) the first boy three years and six months. But here there occurs, unfortunately, a slight ambiguity, the age of our patient, a boy, being entered as "three," meaning of course, *over* three, we can not say by how much. He was but ten days a patient, and might possibly claim to stand fourth on the list, the three youngest being all girls.

At any rate, taking the seven youngest subjects of rheumatism, all under four, we get five girls to two boys, while the only two under three years of age are both girls.

It may be taken for granted, then, that the two affections here seen together, chorea and rheumatic polyarthritis (not to meddle just yet with mere joint-pain), are both of them rare at the age of our patient, namely, three years and six months—so rare, indeed, that a single example of such combination can not fail to suggest a real pathological affinity between the motor disturbance and the joint-inflammation. But in order to test fully the validity of this belief or suspicion it will be necessary to consider the circumstances of such children as have been mentioned above as examples of chorea occurring at an exceptionally early age. How is it with them in respect of rheumatism? What proportion are rheumatic, and of what nature is the relationship between the chorea and the rheumatism?

Now, of my one hundred and seventy-seven cases of chorea, already quoted, there are eight under six years old; all but one girls. One of these must be dismissed from the present inquiry—a girl of four, whose friends were not interrogated in regard to rheumatism. Of the seven remaining, three certainly, and a fourth probably, had had rheumatism. Three were exempt. Of Dr. Dickinson's seventy-one cases, three only

are under six, and in two of them chorea followed immediately after rheumatism. It thus appears that two hundred and forty-eight children with chorea include eleven under six years old. One of these supplies no information on the point at issue. Five out of ten certainly, six out of ten probably, have had acute rheumatism. With such testimony it hardly needs the extra corroboration of our present case to drive home the conclusion that in young children the rheumatic element of chorea is conspicuous.

But the numerical statement does not adequately express the strength of this evidence. The intimacy of the relationship between the two affections has to be considered no less than the frequency of their joint occurrence in the same individual. The fact that a patient suffering with chorea has at some former period suffered with rheumatism, taken by itself in any particular instance, does not move us much. It proves nothing except that the one disease does not shut out the other, which no one ever supposed that it did. But a single example of chorea and rheumatism in such close union that the symptoms of the two affections are practically inseparable argues strongly in favor of a common pathogenesis. And such is habitually the nature of the relationship in these exceptionally young subjects. Thus, in my one hundred and seventy-seven cases, the youngest of the list, a girl between three and four (Annie P.), had redness and swelling of the feet and hands just before the chorea. Olive T., aged four, "had had rheumatic fever." Annie G., aged four years and six months, "had had rheumatism just before." Similarly, Dr. Dickinson's seventy-one cases, already referred to, include one girl, the youngest of his series, and between three and four. She had "general articular rheumatism just before her chorea." The next youngest are two boys, over five, one of whom had had "rheumatism immediately before." If we limit the age still further,

excluding children over five years old, the statement will run thus: In my own list there are four under five (excluding the one without history), and three are in near connection with rheumatism. Dr. Dickinson has but a single case under five, and it is in immediate connection with rheumatism. So that, including our present example and limiting the observation to little children, under five (beyond which limit, no doubt, the association in question becomes both less common and less intimate), we have five examples of chorea intimately blended with rheumatism in six cases; not a large number truly, yet the rare gleanings from a very ample field.

But we are still short of a just estimate of this connection until we have considered the individual symptoms of the two affections thus concurring in the same subject. It is here that we reach the most distinct and irrefragable tokens of a common parentage. No better illustration could be adduced than our patient Mabel. In her case the two elements—the rheumatic and the choreic—are so closely knit together that any attempt at separation might do violence to either. Chorea and rheumatism went hand in hand, but which of the two was foremost we can not certainly tell. On the child's admission two symptoms were prominent—the movement disorder of chorea and cardiac murmur. From the physical characters of the latter some might interpret it as dynamic, and some as evidence of endocarditis. As the case progressed, however, the auscultatory signs were clearly those of endocarditis. Now, if it be that the cardiac murmur was at first dynamic and afterwards, when intensified and conducted, became physical evidence of endocarditis, then chorea was ahead of the rheumatism.

But if it be taken otherwise, and the physical signs indicated endocarditis from the first, then it follows that for more than three weeks this endocarditis has chorea for sole companion, and it is only on the point

of departure of this latter that rheumatic arthritis makes its appearance. Upon either supposition the two affections are closely combined, and they share in common a valve-lesion which may be variously interpreted as the property of one or the other.

It is true, unfortunately, that this case of ours is incomplete, owing to our failure to obtain leave to examine the organs after death. Yet, in the later days of life, the physical signs were sufficiently pronounced to make it practically certain that the child had endocarditis, if not pericarditis. Nor is it to be forgotten that in the rare event of death by chorea in young children the condition of the heart-valves is, as a rule, hardly distinguishable from rheumatic endocarditis. Add to this that cardiac disturbance is more frequent in the younger than the older children, and there will appear, over and above the fact that young subjects frequently exhibit chorea and rheumatism together, the additional fact that each of these affections, taken separately, is in the habit at this tender age of affecting the heart after the same manner.

This intimate association of polyarthritis and chorea seems almost to justify the statement of the French physician, that the two affections are different manifestations of the same morbid condition. But let it not be forgotten that in all that has been now said we are considering one stage of life alone, the dawn of conscious existence, a period, that is, which furnishes but rare examples of either of the diseases in question. If chorea be regarded without reference to age, its connection with rheumatism is neither common nor intimate, and in adult life it is hardly perceptible. The facts stand thus: In the after-infancy period of life, when rheumatism and chorea first emerge in recognizable shape, they appear in close association. Growth tends continually to weaken this connection, and eventually breaks it down altogether.

[TO BE CONTINUED.]

GENERAL SURGERY.

ABDOMINAL SURGERY.

BY
L. S. M'MURTRY, M. D.
Synopsis of Paper Read to
the Kentucky State
Medical Society.

Dr. L. S. McMurtry made a report on Abdominal Surgery. He recited some of the influences which had worked such great improvements in general surgery during the past decade, and said that in no department had such brilliant results been worked out as in the surgery of the abdomen. Ovariectomy, he said, is now the most successful major operation in surgery, and every organ in the abdominal cavity has been brought fairly within the realm of conservative surgery. Tracing the history of ovariectomy, which paved the way for all the broad field of abdominal surgery as now laid out, he said the mortality of the operation was severe until the so-called antiseptic system was introduced into surgical practice. The system of exalted surgical cleanliness introduced into the surgery by Lister he pronounced the most important single contribution ever made to abdominal surgery. Intestinal obstruction resulting from inflammatory deposits, such as loops, bands, and membranes, from twists of the gut, from impaction of the gall stones and foreign bodies, from intussusception, should be treated by early laparotomy. He declared that persistence in palliative methods of treatment in such conditions until the vital powers are exhausted is inexcusable in view of the safety and efficiency of abdominal section. Gunshot and punctured wounds of the belly were too often treated by expectant methods, such as opium internally, etc., with almost uniformly fatal results. In these cases the abdomen should be immediately opened if there is reason to suspect injury to the viscera, or internal bleeding. The peritoneal cavity should be thoroughly washed out in such cases, the bleeding vessels tied, intestinal wounds carefully sutured, and if necessary the gut resected. The results obtained by Bull, Ham-

ilton, Wyeth, and others in treating penetrating wounds of the abdomen in this manner teach a valuable lesson which needs to be heeded by every practitioner of surgery. He called attention to the superiority of laparotomy as a diagnostic and exploratory means over the aspirator. He claimed that laparotomy should not be performed hastily as a mere ordinary means of diagnosis, but ought to be resorted to in cases of gravity where other means of diagnosis leave the condition one of doubt and obscurity after repeated and careful examination, and, if possible, after consultation. Laparotomy in skilled hands, as a diagnostic means, is far more valuable than aspiration, and very little, if any, more dangerous.

Acute peritonitis he pronounced almost, without exception, septic. He doubted the existence of so-called idiopathic peritonitis. Among the causes of acute septic peritonitis, he mentioned abscess inside the abdomen, rupture of cysts, perforation of the appendix, injury of viscera from blows, ulceration and perforation, escape of pus from Fallopian tubes, and degenerative changes in fluids, blood, and serum, effused within the peritoneum. Abdominal section, irrigation, and drainage constitute *the* treatment of acute septic peritonitis. He recited a case of puerperal peritonitis, in which the patient was rescued by laparotomy and removal of a suppurating Fallopian tube. On the third day after labor, the patient was seized with a chill, and presented in succession the characteristic symptoms of puerperal fever. An examination of the soft parts showed no sign of a recent tear. A large, tender, boggy mass was detected by vaginal examination. After the suppurating mass was removed by section, she made an unimpeded recovery. There are numerous cases of puerperal peritonitis in which the only hope for the patient is in abdominal section. So-called puerperal fever he regarded simply and alone septic peritonitis.

He recited some clinical observations,

showing that gonorrhea in the female is a serious and perilous disease. To Dr. Naeggerath, of New York, we are indebted for our knowledge of the relation of this disease to salpyngitis. Gonorrheal endometritis very readily passes into gonorrheal salpyngitis, converting the tube into an immense pus sac. Bursting of the tube, peritonitis and death are frequently the termination of these cases when left alone. Cases of pelvic disease accompanied with leucorrhea should be carefully differentiated with a view to detecting infection, and pus tubes, when made out, should be removed by abdominal section. The speaker considered this subject one of great importance, which deserves more attention from all practitioners who treat pelvic diseases. After detailing the results of the extensive work introduced by Battey, Tait, and Hegan in connection with removal of the uterine appendages, which, he said, should never be practiced for vague neuroses and subjective symptoms, but only for actual disease. He reported an illustrative case from his own practice not hitherto reported. Mrs. W. H. S., aged 29 years, married two years; no children; had one miscarriage nine years ago. When I first saw her in consultation with Dr. B. F. Purdom, of Mitchellsburg, Ky., 20th January last, she had been an invalid for several years, and confined to bed for two years. Each menstrual period lasted from eight to twelve days, and was accompanied with intense pain and nervous disturbance. The severity of the pain necessitated the exhibition of opium, and she had become very dependent on the drug. She scarcely recovered from the exhaustion of one period until another supervened. Upon vaginal examination the uterus was found in extreme retroversion. The left ovary was enlarged, prolapsed, and fixed; sweeping the finger over its site induced a violent paroxysm of pain. The outline of the enlarged Fallopian tube could be made out by the finger in conjoined manipulation. The proposal of laparotomy and removal of

the diseased organs was readily accepted. The operation was done on the 16th of February, the appendages of both sides being removed. Dr. Wm. Polk, Dr. B. F. Purdom, Dr. William A. Brown, Dr. Cartwright, and Dr. Fayette Dunlap were present. Thorough antiseptic precautions were observed. The left ovary was enlarged to four times its normal size; the tube was in a state of chronic inflammation, and both embedded in a mass of firm (old) adhesions. The appendages of both sides were diseased and were removed. No drainage. Convalescence was uneventful and uncomplicated. Neither pulse or temperature exceeded 100 after the operation. The patient was convalescent on the fourteenth day.

Ten days since, June 7, 1887, this lady called at my office, a perfect specimen of health. She is rosy, hearty, and happy, and is quite independent of opium. None of the phenomena of menstruation have recurred since her convalescence was completed. This case is given in detail as illustrative of one of the most practical applications of this procedure which deserves to rank among the most brilliant achievements of modern surgery.

In cases of uterine myoma characterized by hemorrhage and rapid growth, removal of the uterine appendages producing the atrophy incident to the menopause is an established operation yielding brilliant results.

Among the most important recent additions to the technique of abdominal operations is the irrigation of the peritoneal cavity with water at a temperature of 105° F. to 110° F. after prolonged operations for the purpose of lessening shock. This is a contribution from Dr. Gill Wylie, of New York, and serves a valuable purpose, inasmuch as the anodyne properties of heat may be combined at the same time with an antiseptic in such a manner as to secure the good effects of both without any of the untoward effects of either.

EYE, EAR, AND THROAT.

DISEASE OF THE MASTOID CELLS.

BY

S. E. MUNFORD, M. D.

PRINCETON, IND.

Read to the Mitchell District Medical Society of Indiana, June 30, 1887.

While in a physician's office in a neighboring town a few years ago a man came in with his head to one side, much as one goes with torti-collis. His face was haggard,

and he complained of pain in the region of the ear, which tormented him day and night.

The physician, Dr. Byers, of Petersburg, who had charge of the case, gave me, as well as I can remember, about this history: Began with pain which was located in the ear; the mastoid integuments became tender to the touch, followed by swelling and redness of these structures. The skin was incised with only slight relief. Dr. Mussey, of Cincinnati, who was consulted by the patient afterward, reopened the wound and chisled away the bone until the mastoid cells were opened. I can not recall what statements were made as to relief from this procedure. The wound was still open and the neighboring parts had swollen and somewhat erysipelatous.

A week or so after this time I was asked to see the case with the attending physicians. He was comotose a great portion of the time but now and then wild and restless. Two brothers, one a physician, had been called to his bedside from a distance. Both were thoughtful and intelligent gentlemen and were present during the consultation. It was believed by all that the intra-cranial structures had been reached by the inflammatory action and that the products of inflammation were causing cerebral compression. We saw nothing save the trephine that was available as a means of relief. This we should have applied a little behind and below the mastoid process. The brothers earnestly plead for this course, but the family, influenced by outside parties, refused to allow it. In his demented and exhausted condition the patient was again taken to

Cincinnati. Dr. Mussey wrote me subsequently that he applied the trephine, that pus welled up in the track of the instrument but for some reason, not now remembered, he stopped short of penetrating the cranial cavity. Soon after this the man died while yet in the city. A post-mortem examination was not allowed. I never recall the case but to regret exceedingly that the use of the trephine was refused when it offered hope, the only hope of relief. I do not doubt that pus would have been copiously discharged.

This is a case whose formal condition was doubtless otitis media with subsequent implication of the mastoid cells, and intracranial tissues, and my experience with it led me to feel concerned about middle ear inflammation and to watch narrowly all cases where the mastoid integument becomes baggy.

CASE.—The grandmother of a girl, aged about eight, had sent to me several times for prescriptions for the child to relieve ear-ache. When called subsequently to see her, I found the external auditory canal nearly closed; the auricle was red, swollen and pushed forward; the mastoid integuments were swollen and painful to the touch; the head was tilted as from rheumatic soreness of the sterno-mastoidens, and was carefully held in that position by pillows. Every effort to move the head or body caused the child to scream with pain.

An anesthetic was given and the swollen mastoid surface incised to the bone; the knife was drawn the second time through the bottom of the wound that the periosteum might not escape the cutting. A little pus escaped and the wound bled freely for some time. After this no pain was felt and recovery was rapid and complete. Two other cases with history, treatment, and results so like this one that to present them in detail would be an unprofitable use of time, comprise my experience in practice with disease of the mastoid cells, or what I supposed to be such from the attending phenomena.

When it is remembered that the antrum and mastoid cells are pneumatic appendages to the tympanic cavity and are lined with a continuation of its mucous membrane, it is not difficult to see how these surfaces may become involved from acute or chronic inflammation of the middle ear. Disease of these spaces occur also independently of tympanic affections, as from the deposit of cholestrine from blows and form idiopathic periostitis, but the first, or tympanic origin is by far the most frequent. Three classes of mastoid affections are recognized: 1st. Those in which the antrum is chiefly involved. 2d. Those in which the surrounding bone, including the air spaces, participates in the inflammatory action, and 3d, those in which there is periostitis of the outer aspect of the bone. These are not distinct affections and have no boundary lines.

In the early history of these cases leeches and poultices naturally suggest themselves as remedies, and should be used. If the teguments of the mastoid process are swollen, red and doughy, and if there be severe and persistent pain, a free incision should be made from the base of this protuberance to its point. The periosteum should always be included in cut. This operation is known as "Wilde's incision." The periosteum should be turned aside and careful search made for dead bone, or sinews opening to the air spaces. The wound should be packed with iodoform gauze, or by other measures kept open. Should this procedure fail to relieve the pain permanently, not much time should be lost before the mastoid spaces are laid open. This can be done by bone gauge or drill. The periosteum should be saved as in osteotomy elsewhere. Of this operation Van Troeltsch says: It is now to be included among those operative measures which may be demanded by the "vital indication" and just as any conscientious surgeon under definite circumstances will feel himself compelled to open the larynx or to operate for hernia,

just so urgent conditions occur when perforation of the mastoid process remains as the only possible means of saving life.

With my limited experience I would better not appear before a medical society with a paper on this subject. My object, however, has not been to instruct in the diagnosis and treatment of such cases, but rather to excite attention to a neglected corner in the surgical domain. Every physician sees day after day children and others with chronic purulent discharge from the ears. Every such person, whether child or adult, is under a hair-suspended sword and should be an object of solicitous regard upon the part of the physician charged with their case. The specialist may not always be had to diagnose and treat these cases for us; so the general practitioner must needs be a versatile character, a hollow square as it were, with a side in arms for every assaulting foe.

LARYNGITIS,
ITS CAUSE,
SEQUELÆ AND
TREATMENT.

BY G. Q. ORVIS, M. D.

SEYMOUR, IND.

Read to the Mitchell District Medical Society of
Indiana, July 1, 1887.

The disease under discussion in this paper is, as its name implies, an inflammation of the larynx, which is located in the throat between the pharynx and trachea.

No part of this organ,

except its lining membrane, is ever affected by an inflammation, unless it be from an external injury, or by extension, so we will not be confused in keeping in our mind's eye the conditions with which we are dealing.

Perhaps there is no organ in the human economy whose function is not continuous that is called into use as often in an hour as the larynx, and yet its workings are about as poorly understood as any part of the system. If I were to ask one hundred of the laity to-day for information regarding this little organ, ninety-five would give a verily incorrect description of it. And should we push the query among our physi-

cians in general, it would astonish us to find how little is known about this important organ. I am well aware that I am reading before a society whose members and visitors are above the average in their profession, and will not waste much time in giving the anatomy, but think it best to give an outline of the interior of the parts discussed. The larynx is lined by a mucous membrane, being an extension of the membrane found in the pharynx, and at the lower end of the organ merges into the lining membrane of the trachea. This membrane differs in structure from the other mucous structures, having more glands and cell masses, and less of the epithelial layer, the sub mucosa being very indistinct, and the mucous membrane above and over the chords being firmly attached to the cartilaginous walls of the organ, and below being loosely attached, in fact scarcely any attachment except some cellular tissue in some parts of this part of the organ, making it very susceptible to infiltration, and a splendid nidus for septic poison. The vocal chords are bands of fibers, their edges having a white, glistening appearance and approximate, when normal, upon certain movements of the intrinsic muscles of the larynx being made to spread apart when action of these and other forces are reversed. The opening between the edges of the chords is known as the chink, but as we will only deal with the lining of the larynx it will be unnecessary to go into further detail of the anatomical structure, except to notice the epiglottis, which is, as its name applies, situate above the glottis, and acts as a sentinel, forbidding the passage of any substance having form or solidity to the interior of the larynx, and when in a normal condition does its work remarkably well. It is composed of fibro cartilage, and covered with mucous membrane which contains many small glands. It is attached to the base of the tongue and thyroid cartilage by folds of its membrane at the anterior margin. It resembles a saddle-tree somewhat, and when inflamed takes on much

more of this appearance, and if the inflammation is considerable becomes very imperfect in its function.

In all cases of this disease (at least all cases that come under my care) we find an inflamed condition of the nasal and pharyngeal cavities present with hypertrophy of either the inferior or middle turbinated bones, generally so extensive as to block up the passages and turn the secretion of these parts from their natural way of leaving or being discharged. This product of an inflammation is capable of, and does cause inflammation wherever it touches, and in its egress passes down and bathes the mucous surface of the larynx, and we soon have the disease well seated in this location. Those causes which seem to bring on an attack of this malady are only sub agents, as for instance, taking cold produces a general congestion of all mucous surfaces which would scarcely be noticed were it not for the latent trouble already existing. An exposure to the night air, inhalation of dust and noxious gases, and mouth breathing, all will produce the same results, but in each case, no matter which of the causes seems to be most prominent, the indirect or latent cause mentioned is nearly always to be found. In the past few years I have had abundant opportunities for confirmation of this statement, and have fully satisfied my own mind that laryngitis, either chronic or the sub-acute variety, is a product of hypertrophied rhinitis; at least nine out of every ten cases are caused by the septic poison of the secretion from the diseased Schneiderian membrane, which passes away through the posterior nares on account of the blocking up of the anterior passages by the thickened tissues.

The symptoms present in this affection are as subjective—hoarseness, pain (or soreness as usually described), a tendency to cough, with expectoration at times of purulent mucous, dysphonia, dysphagia, and perhaps hemorrhage during the paroxysms of coughing. As objective symptoms, we find a

congested, and perhaps ulcerated condition of the lining of the larynx, a distortion of the epiglottis, caused by congestion of its tissues, and the small venous trunks are much enlarged, and show plainly on the vocal bands. We also have symptoms in other parts, as swelling of the cervical glands, and pain in the lower cervical and supraclavicular region and an intense soreness in the region of the thorax, due to the coughing. Sometimes we have fever and loss of flesh if the disease continue for a long time, and these symptoms all combined are apt to mislead us and cause us to make a diagnosis of phthisis.

The sequelæ to laryngitis may be phthisis, caused by extension downward of the inflammation. Acute laryngitis, which is nearly always fatal, sometimes follows sub-acute laryngitis. Edematous laryngitis may also be brought on in the same way. Another condition that may follow laryngitis is stiffening of the vocal chords, and dysphonia, or aphonia results; the stiffening is caused by the mucous fold (that envelopes and connects the real fibres of the chord) becoming thickened, and pinning the chords back to the cartilaginous walls, and if we bear in mind that it is the movement of these walls that produces abduction and adduction of these bands we can readily understand how dysphonia occurs. I said aphonia might follow; this is not so, for we never have complete loss of voice in chronic or sub-acute laryngitis, although there may be such a serious state of affairs that nothing more than whisper phonation is present. Another sequelæ that may follow is dysphagia. This may be caused by unmasticated food passing in lumps over the epiglottis or by the contraction of muscles attached to the cartilages of the organ or by small particles of food passing under the fatty, closed epiglottis, and acting as an irritant. In whatever way it is caused the condition is a serious one, as emaciation will be sure to follow, and we will have a disturbed nutrition to contend with, which is not at all desirable.

Another sequelæ to this disease might be mentioned, if time would permit, as enchondroma trachoma of the chords and the growth of vegetations; but these are rare, and we will only notice one more (*viz*), cancer of the larynx, and only that variety known as epithelioma. We believe this cancer to be of local origin, and is always a sequel to subacute laryngitis, never appearing in this location, the tissue breaking down, irritation being prolonged and the fatal result being due to exhaustion caused by malnutrition and nervous disturbance.

At the present time fears are entertained for the life of the Crown Prince of Germany on account of what, "according to reports," must be an epithelioma of the larynx due to repeated attacks of subacute laryngitis.

The rational treatment of laryngitis must be remedies to remove the cause; as the first attacks of inflammation are not lasting the physician rarely is called upon for aid until some one of the sequelæ are well defined, or until the larynx is in a very bad way, and constitutional disturbances are present. If the prime cause be as I have stated, hypertrophia rhinitis, all remedies not applied to this disease can only afford temporary relief. So after giving internal medication to subdue fever and to build up the general system, we turn to the larynx, and my first application to these parts is Dobell's solution, applied with a camels-hair brush, followed by argenti-nitras in solution, about five grains to ounce of aquæ, and made stronger at each sitting, which should be each alternate day, and gradually made farther apart as the disease progresses favorably. This treatment will give great relief in all cases, but will not be permanent. So for this we must turn our attention to the seat of the trouble and the reduction of the turbinated bones, or the tissue covering them, must be our object. The quickest way to do this is with the scissors and forceps, and, I may add, the best and safest way also, but many patients object to any thing like cut-

ting, and we are obliged to seek some other means, and these we find in either the electrode or any of the caustic acids. The first named I consider a very dangerous remedy, as it completely kills all the thickened tissue, and more, that it comes in contact with and usually causes a large cicatrix that perhaps will be more irritating than the hypertrophy we wish to get rid of. The remedies giving me the best satisfaction are nitric and chromic acids—the first I use if the mass is soft and yields to pressure, the second where the enlargement seems to be permanent. These are applied after thoroughly spraying the parts with cocaine, and followed in fifteen or twenty minutes with nitrate of silver spray, which must be used at each sitting for its astringent effect until the slough is entirely healed. These applications should be repeated until the masses disappear, and it usually takes three or four applications, each one made after the previous slough has healed. When the thickened tissues are reduced it is very little trouble to relieve remaining traces of the disease, which is done by thorough cleansing of the nose, pharynx, and larynx, and local application of some mild astringent, and by removing this disease, remote from the parts we chose as our subject, re-relieve and make permanent the relief for laryngitis of the catarrhal variety.

Perhaps you will say too many of the ailments of man are being charged to the nose. As recent writers have traced the cause of some ocular affections, asthma and craniolgia, to rhinitis, all of which, and many more diseases, I believe, are caused by this affection, but the proof of the pudding is best made when eating it, and by following this line of treatment for the past five years I am thoroughly convinced of its correctness.

What should our prognosis be in chronic or subacute laryngitis is a question that comes to us without being asked, and we must be honest with ourselves, if we are to succeed, if not to our patients. To me this trouble

is a grave one, especially in those subjects whom it is hard to impress with its gravity and who are indifferent about treatment. I have no doubt but what seven out of ten cases (not hereditary) of phthisis are caused by laryngitis. I am not a believer in bacteria or microbes or bacilli as a cause of diseases, but do believe they are a product of broken down, diseased tissue, therefore I look to other causes more, perhaps, than some of my listeners do who are wedded to bacteriology. So I tell my patients suffering with laryngitis that they are in danger of that dread monster, consumption, and try to explain the degree of danger; I also tell them they may have ulceration of the cartilaginous tissues and the other results that are apt to follow if they do not give the disease proper attention. If such attention is given it the probabilities are a complete restoration of the normal conditions.

In this paper I have only given a rough, incomplete sketch of this disease, its cause, its sequelæ, and treatment, but enough to convey to you my idea of the etiology and my plan for its relief.

THE OPTICIAN AND THE OCULIST.	The relations of the optician and the oculist have been discussed considerably of late. There are but few opticians as compared with the whole number of pretenders. An optician should be able to comprehend not only the theory of optics, but to construct optical apparatus to order. By general consent any dancing master or music teacher is called professor; and so with the jeweler, who, however ignorant he may be of the science of optics, is, by consent, permitted to call himself an optician. Then the practitioner of ophthalmic medicine and surgery must share his part of the blame, for nine out of ten of them undertake to test the refraction of the patient's eye with lenses, not only imperfectly and incorrectly ground, but graded after a sort of hap-hazard method, such as we fancy must have been adopted by the association of conspirators against science and learning.
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OBSTETRICS AND GYNÆCOLOGY.

CHLOROFORM IN OBSTETRICS.	One of the great questions now agitating the minds of obstetricians, is whether chloroform shall be used from the beginning of the painful stages of labor, and how far the anesthesia should be carried. It has been maintained by many of the most experienced obstetricians that the use of anesthetics should be limited to the most painful stages, and then to the production of a mere obtended sensibility only. Some think the expulsive efforts of the uterus may be arrested by profound anesthesia, thus delaying the labor and imperiling the life of the child. It is difficult, after hearing a full discussion of the subject, to arrive at any general conclusion which shall be universally acceptable. The weight of experience, however, would seem to establish the safety of chloroform in obstetrical cases, provided its effects be not pressed too far, the presence of pain alone affording the proper indications for its use, regardless of the stage to which the labor may have advanced, the only forbidding condition being the presence of fatty degeneration of the heart. The weight of experience would likewise seem to sanction, by almost universal consent, the selection of chloroform as the proper anesthetic in obstetrical practice. It would appear equally well established that the production of anesthesia to a degree rendering the patient insensible to pain, although not entirely unconscious of surrounding objects, in no way tends to promote the occurrence of hemorrhage <i>post partum</i> .
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THE NAUSEA OF PREGNANCY.	The nausea and vomiting of pregnant women has for ages appealed in vain to the medical profession for an efficient means of relief. Cocaine has recently been suggested in simple solution, and in the form of the vinous infusion. Mariani lays great claim to the value of his
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wine of coca in the vomiting of pregnancy. A young practitioner, who is too modest to permit the presentation of his name to the public, informs the editor of PROGRESS that great success has attended the local application of an ointment of cocaine made of the strength of five grains of the muriate to the drachm of petrolatum, and applied directly to the os with a camels-hair brush. He says he has recently had very fine results in two obstinate cases from the introduction of the compound cocaine suppositories, samples of which were recently distributed by the South Bend Medicine Company, from South Bend, Indiana. Our modest young friend uses a tepid injection, made of ten grains of the borate of sodium to the ounce of water, and immediately thereafter introduces the conical point of the suppository into the os, and requests the patient to remain in bed half an hour. He has subsequently practiced this in the evening, allowing the suppository to remain all night in the vaginal canal, with great relief to his patient.

HYGIENE OF THE PARTURIENT WOMAN.

It too often happens that the woman taken in labor does not evacuate the bowels, take a bath, change the whole of her linen, and that on the bed also. She should be instructed to use a vaginal injection of warm solution of borate of sodium, and have all the cloths to be used on this important occasion well washed in borax water. All the linen, including diapers, for the child should be similarly prepared.

Attention to all these matters in time will prevent many of the delays in recovery; it tends to prevent puerperal septicemia, and will generally prevent the excoriation of the child's skin, under the diaper, besides removing one of the most potent causes of ophthalmia neonatorum. Puerperal fever being a true septicemia, it is hardly necessary to say all these precautions will fail if the accoucheur inoculates the patient.

PATHOLOGY AND HYGIENE.

LUPUS IS AN INFECTION.

In an address delivered before a joint meeting of several of the branches of the British Medical Association, Mr. Jonathan Hutchinson considers that infective diseases of the skin show a tendency to become serpiginous, spreading at their edges, occasionally healing in the center. He says the spreading is due to contagion. This latter conclusion is based mainly upon the idea that the success of remedial agencies are such as consist in the destruction of the advancing edge of the patch. He takes lupus as a good example of this, and thinks, although complete cures are rare, recovery is sometimes obtained. The appearance of the so-called satellites in lupus is due, no doubt, to the conveyance of infective germs for short distances along the lymph channels. Lupus, as a rule, is a single patch, or at least it is only sparingly multiple. Now and then, however, we encounter cases in which the patient is covered over with separate lupus patches; and without proof, we prefer to believe these patches were all developed independently of each other, and in part by constitutional tendency, or by sheer destiny, or shall we suspect that the first was due to a local injury and the rest followed by infection of the blood or lymph channels running from it. The specific infective nature of lupus has been ascertained to depend upon the presence of the bacillus tuberculosis. Lupus is, therefore, shown to be a local tuberculosis of the skin; and the septicemia, which has long been known to arise in those cases which terminate fatally, is in fact a form of milliary tuberculosis. Dr. James E. Reeves, of West Virginia, has succeeded in demonstrating the *bacillus tuberculosis* in lupus tissue, and is prepared to furnish microscopic slides for study.

The treatment of lupus should be arsenic internally, and a solution of bichloride of mercury strong enough to produce an eschar.

STATE EXAMINING BOARDS.

Statutes designed to regulate the public health and to govern the qualifications of practitioners of medicine have been enacted in many states. In West Virginia, where the law was thought to be wisely ordered, and where it was for a time conscientiously enforced, there comes now a murmur of discord. It appears from an account contained in the *Wheeling Daily Intelligencer*, of July 18th, that the Governor of West Virginia and the Attorney General have deliberately procured the appointment of one Dr. Garrison, whom it is claimed has not only not practiced for the required term of twelve years, but who had failed to exhibit the required qualifications to practice at all in the State.

Almost the entire profession of Wheeling protested against the appointment. The State Medical Association at its annual meeting recently denounced it, and rejected the application of Dr. Garrison for membership.

The *Intelligencer* says there are 1,360 registered physicians in West Virginia, and that the Governor and Attorney General will be likely to hear from them.

If a man who has been refused admission to the State Medical Society is to be appointed a member of the Board of Examiners, to decide upon the qualifications of applicants to practice medicine in the State, it is clearly apparent the law is either inadequate, or those who have violated it should pay the penalty. From an entirely disinterested stand-point, we feel inclined to say this is an illustration of the danger of seeking to establish higher qualifications for practitioners of medicine through incompetent tribunals. Whenever the Governor of a State, who is too often a mere demagogue, is empowered to appoint members of a State Examining Board to determine the scientific attainments of persons desiring to practice medicine, it is a question of time only when this power will be abused.

BOOKS AND PERIODICALS.

WHAT TO DO IN CASES OF POISONING.

BY

WILLIAM MURRELL,
M. D., F. R. C. P.

*Lecturer on Pharmacology
and Therapeutics, in the
Westminster Hos-
pital, etc.*

First American, from the
fifth English edition. Edited
by FRANK WOODBURY, M.
D., Professor of Materia
Medica and Therapeutics,
and Clinical Medicine, in
the Medico-Chirurgical Col-
lege, Philadelphia.

Published by the *Medical
Register Co.*, Philadelphia.
1887.

In his preface, Dr. Murrell says that the work has reached a fifth edition is no fault of his, and he disclaims all responsibility. He says it has been the means of saving many lives, and he has heard of a gentleman who had thought of poisoning himself, but who, on reading the directions for treatment, changed his mind. Being of a

retiring disposition, he objected to having a pint of hot coffee injected into his rectum.

Says Dr. Murrell: "It has been complained that the book is getting too big. I admit it; but the fact is there are too many poisons now-a-days. If people who contemplate suicide would adopt a uniform method, it would facilitate matters greatly."

A chapter has been introduced on the fee, which is, it is said, very often neglected.

Owing to the differences in pharmacopœial nomenclature and in some of the formulæ, it has been found necessary, in presenting an American edition, to subject the work to careful revision, which has been done by that master in therapeutics, Professor Frank Woodbury, of Philadelphia, in a style peculiarly his own.

The poisons are arranged in alphabetical order, and require, therefore, no loss of time in searching a table of contents or an index.

Under the head, "The Fee," Dr. Murrell thinks, considering all the responsibility assumed, the time and trouble required, that the fee for a case of poisoning should be the same as one would charge the same people for an ordinary midwifery case. It should vary according to the circumstances and social position of the patient, from two

to twenty guineas; in plain greenbacks, from ten to one hundred dollars. Dr. Murrell thinks a specialist in the treatment of cases of poisoning would be justified in charging from \$125 to \$250, including the subsequent attendance. The fee, however, he fixes in the mind of the reader, by making it, under ordinary circumstances, the same as for an obstetrical service.

The *Medical Register Company* has done its part very handsomely in the publication. The volume is handsomely bound in cloth, printed on excellent paper, in bold, clean type, and is of duodecimo form, 153 pages, with an appendix. Price, \$1. Just think how much one can learn about saving life, and all for one dollar!

DIPHTHERIA.

Historically and practically considered, including Croup, Tracheotomy, and Intubation.

BY A. SANNÉ,

Docteur en Médecine, Ancien des Hôpitaux de Paris, Membre de la Société Anatomique, Des Sociétés de Médecine de Nancy, de Genève, etc.; Chevalier de la Légion d'Honneur.

Translated, annotated, and the surgical anatomy added; illustrated with a full-page colored lithograph, and many wood engravings,

By HENRY Z. GILL, A. M., M. D., LL. D., late Professor of Operation and Clinical Surgery in the Medical Department of the University of Wooster, at Cleveland, Ohio; Member of the American Medical Association, etc.

St. Louis, Mo.: J. H. Chambers & Co. 1887.

When one contemplates the study of diseases singly, it must be with the understanding that the whole range of medical literature must be gone over, or, what it is hoped will be a more satisfactory method of proceeding, to begin with the pathological anatomy; then study the general pathology; then the etiology. Unfortunately, diphtheria is not so well understood this moment as to be reducible to scientific methods of elucidation;

and we must at present be content with the elaborate historical works based upon the accumulated experience and observation of prominent practitioners.

Dr. A. Sanné, of Paris, is a conspicuous representative of this class. His work, which appeared in 1876, is now translated by Dr. Gill, and published by J. H. Chambers & Co., of St. Louis, in an octavo volume of 656 pages.

Vol. 11, No. 1—3.

The irreconcilable differences of opinion between Virchow and the French concerning the nature of membranous croup and diphtheria led Dr. Gill deeply into the study of the literature of diphtheria. The study seemed to have its especial charm in relation to tracheotomy as a possible means of relief in laryngeal stenosis.

The illustrations are numerous, and, for the most part, well executed. The subject matter has been arranged and classified at great expense, and the volume will prove especially interesting to those practitioners who have seen much of epidemic diphtheria. It will, no doubt, serve to encourage those gentlemen who have frequently done tracheotomy in this disease. As a sort of history of the subject, it will, no doubt, find favor with some. For its statistical tables, it may probably be consulted as a work of reference, but it is entirely too far behind the procession to receive any recognition from the practical student.

If diphtheria is better understood by Dr. Sanné, or by Dr. Gill, his translator, than it is by the medical profession in general in the rural regions, where the old foggy enjoys the advantages of a neighborhood influence, it does not appear in this book.

It is painful to the student to be obliged to waste so much time in reading what obsolete books contain on a subject, about which the present author knows no more than those who have preceded him. If Dr. Gill would go to work in a systematic and practical way to divest the subject of diphtheria, in medical literature, of the barnacles it has gathered in the prize essays and memoirs, and the clinical histories, so-called, of the thousand writers who had special theories to advocate and support, or who tried to tell what they imperfectly observed, or heard others say, he would, no doubt, win much favor with the discriminating class of readers of medical literature. By a sort of *coup de main*, Dr. Gill has, no doubt, in the translation of this work re-established his claims to distinction as a scholar, and

his ability as a teacher, at Cleveland, Ohio, where he was formerly Professor of Operative and Clinical Surgery in the University of Wooster. It is a pity to be obliged to judge Western authorship by such standards as that set by Dr. Gill.

MEDICAL CLASSICS.

A three-column quarto newspaper of sixteen pages, devoted to the writings of the early masters in medicine. Volume I, No. 1.

Issued by the *Medical Classics Company*, 38 Murray St., New York. Price, 25 cents for single numbers, or \$1 per annum, the publication appearing every two months.

But one advertisement of a kind will be admitted. Quack or humbug advertisements will be rigidly excluded.

Address, Post-office Box 2,902, New York, N. Y.

The first article is taken from the writings of Dr. Venner, of Bathe, published in 1638. This article considers the expediency for health for a person to be drunk with wine once or twice a month. After condemning the use of wine as medicine, Dr. Venner says: "I will not deny that

it may be very lawful and expedient for them that are wont to be wearied with great cares and labors to drink sometimes until they be merry and pleasant, but not drunken." The second article is by the same author, published in 1637. It is devoted to the "Taking of the Fume of Tobacco."

Article No. 3 discusses the delicate question of sexual intercourse, by A. F. M. Willich, of London, 1801. He speaks of the seminal fluid as being a highly refined, volatile substance, which is reabsorbed and mixed with the blood, of which it constitutes the most rarefied and volatile part. He says it imparts to the body peculiar sprightliness and vivacity, and that these beneficial effects can not be expected if the semen be wantonly and improvidently wasted. Perhaps the most interesting part of this the first number of *Medical Classics*, is that which is devoted to the consideration of Peruvian bark, Dr. Thomas Sydenham and Dr. Brady (1679), and a consideration of the same subject one hundred years later, by William Cullen, of Edinburgh.

Certainly this is a unique publication, and we await with much interest the appearance of the succeeding numbers.

Hoping the work may meet with its well deserved support at the hands of the profession, we extend to it our best wishes, and place it on our exchange list.

A PRACTICAL TREATISE ON DISEASES OF THE EYE.

BY

DR. EDWARD MEYER,

Prof. A l'Ecole pratique de la Faculte de Medicine, de Paris, Chevalier of the Legion of Honor, etc.

Translated, with the assistance of the author, from the third French edition, with additions as contained in the fourth German edition, by FREELAND FERGUS, M. B., Ophthalmic Surgeon Glasgow Royal Infirmary; etc., with 267 illustrations and three colored plates. Philadelphia: P. Blakiston, Son & Co. 1887.

This is a handsomely illustrated, thoroughly practical, and well-arranged textbook. The work has been translated into German, Italian, Spanish, Polish, Russian, and Japanese. Dr. Fergus has done the English-reading public a great service by his admirable translation.

Dr. Meyer has one of the largest clinics in Paris, and is withal an accomplished gentleman.

Some years ago the writer of this notice enjoyed the honor of frequent invitations to witness Dr. Meyer's skillful operations, which were always models of masterly surgery. Like Sichel, Dr. Meyer uses the tincture of cantharides locally to the surface of the cornea in chronic interstitial opacities.

Unfortunately, the proof-reading seems not to have been as well done as the valuable character of the text demanded. At page 351 we find *cystitome*, and again at page 352, and in the text on page 353 and elsewhere.

It is hardly to be expected that a work of this kind, having been so long before the profession, should receive any extended and critical notice. The present translation is from the third and latest French edition, with all the additions to the last German translation.

Students and practitioners alike will find here much that is valuable.

The work is a handsome octavo, illustrated with colored plates, 647 pages, handsomely bound in cloth. Price, \$4.50.

CORRESPONDENCE AND SOCIETIES.

PHILADELPHIA

LETTER.

By our Regular Correspondent,

WM. H. MORRISON,
M. D.

During the past six months, the Bergeon method of the treatment of phthisis by the injection of hydrogen sulphide has been employed by a number

of Philadelphia practitioners, several of whom have recently given reports of their experience. Dr. Edward T. Bruen has employed the method in some sixty-seven cases, with beneficial results in forty-two, and with negative results in fifteen. In no case did any injurious result follow the use of the gas. The favorable influence of the treatment was shown in the disappearance of the symptoms attributable to bronchial catarrh, the lowering of fever and the suspension of night sweats. He regards intestinal lesions and diarrhea as contraindications to the use of this measure. In no case had any effect upon the bacillus tuberculosis been observed. The gas employed was derived from an artificial sulphur water prepared by the addition of five grains each of sulphide of sodium and chloride of sodium to a pint of water. In only a few cases was the reaction of sulphuretted hydrogen obtained by testing the breath.

The experience of Dr. William Pepper and Dr. J. Crozier Griffith has not been so favorable as that of Dr. Bruen. Some twenty-four cases were treated for periods varying from twelve to fifty-six days. In only four cases was there any material effect upon the fever, and in no case was the temperature brought from a persistently febrile to a continuously normal condition. The influence of the treatment upon the other symptoms of the disease had not been especially favorable. They concluded that these observations, so far as they went, tended to show that undue value has been attributed to the treatment of phthisis by gaseous enemata; that it is seldom of any real benefit, but that it may prove serviceable in occasional

cases. The conflicting statements made by other observers show very clearly that the position which this measure is to take has not been clearly decided.

Within the past few weeks there have been reported several cases of lead poisoning from the use of buns, to which chromate of lead had been added for the purpose of giving a rich, yellow color. During a period of four months, six persons in a family of nine were attacked with eclampsia, and with this there were other symptoms indicating poisoning with lead. Four of these cases terminated fatally and two recovered. Two other members of this family also presented symptoms of lead encephalopathy, although there was no eclampsia. Careful inquiry revealed the fact that the persons affected were in the habit of partaking freely every day of tea-buns prepared by a certain baker. Analysis of the buns showed the presence of chromate of lead, and an investigation of the baker's establishment showed that he had used this agent to take the place of eggs in the preparation of the cakes. The discovery of these cases has given rise to considerable comment, and it is to be hoped that it may lead to the adoption in this city of more efficient means than now exist for the proper inspection of food.

A good deal of talk has been occasioned, both in professional circles and among the general public, by a newspaper report of an inquest by the coroner, the report stating that the coroner's physician, Dr. Henry F. Formad, had testified "that ether should not be administered to persons suffering with heart disease." The discussion which this publication caused was so general that at the request of Dr. Formad a committee was appointed by the County Medical Society to investigate the matter. The committee reported that from an investigation of the records of the coroner's office, they found that what Dr. Formad had said was "that ether should not be administered to persons suffering with heart disease without due precautions and proper care, both dur-

ing the administration of the drug and after its withdrawal." The Society adopted a resolution exonerating Dr. Formad from any blame in the matter. The case which led to this discussion was one in which ether had been administered for a minor operation, and which, four or five hours after reacting from the ether, suddenly died. At the autopsy fatty degeneration of the heart was found. The exact cause of death seems not to have been positively ascertained.

Prof. J. W. Holland, Professor of Chemistry in the Jefferson Medical College, has been elected Dean of that institution.

The Trustees of the above College have adopted a resolution that the surgical clinics shall be held by the Professor of Anatomy in equal association with the Professors of Surgery and of Clinical Surgery.

Dr. Richard J. Levis, who has recently returned from a trip to Europe, was tendered a public reception at the Hotel Bellevue on June 21st. It is stated that Dr. Levis intends to retire from active practice.

KENTUCKY STATE MEDICAL SOCIETY. Thirty-second annual meeting held at Paducah, June 15, 16, and 17, 1887, Official Minutes of the meeting BY J. STEELE BAILEY, M.D. Secretary.	First day.—Wednesday. The Society met in the Opera House at Paducah at 10:30 A. M., and was called to order by the President, Dr. W. H. Wathen, of Louisville.
	The invocation was made by the Rev. J.
	W. Lowber, D. D., of the Reformed church.
	Printed minutes of the last session having been distributed over the hall, on motion the reading was dispensed with.

Dr. Jno. G. Brooks, chairman of the Committee of Arrangements, delivered an address welcoming the Society and extending the hospitality of the homes of the city to its members.

Drs. Jno. G. Brooks, Geo. Beeler, and J. L. Desmukes, on motion were appointed a Committee on Credentials.

The Treasurer, Dr. Ed. Alcorn, Huston-

ville, being absent, the Secretary read his report as follows, which on motion was received and approved :

Amounts, cash, deposited in the National Bank, Hustonville, to the credit of the Society:

1885.		
June 26.	By cash	\$ 75 00
July 21.	Error in cash	6 95
1886.		
June 19.	Check, Alcorn	5 40
June 26.	Bailey, Secretary . . .	122 80
"	Selcher	189 20
1887.		
May 25.	E. Alcorn, over draft .	1 35
"	Postage	1 85
		<hr/> \$402 55

Expenditures of Treasurer:

1885.		
July 21.	To check, E. Alcorn. .	\$ 4 50
Sept. 22.	Morton & Co	54 00
Sept. 24.	Dietz	7 25
1886.		
Mar. 13.	Morton & Co	13 25
June 29.	Kelch	15 00
July 1.	Kentucky Advocate . .	10 25
	E. Alcorn, postage. . .	75
July 3.	Walton	12 50
	Morton & Co	32 16
July 9.	Protest fees.	2 50
July 15.	Register Co., Richmond	14 00
Oct. 6.	Miss Callender (stenog),	12 00
Dec. 2.	Rogers & Tuley	33 34
	Balance	3 60
		<hr/> \$215 10
		\$187 45

Mr. President and Gentlemen:—I beg to report the above statement is correct, leaving a balance in my hands for the Society of \$187.45.

EDWARD ALCORN, M. D., Treasurer.

The Secretary then submitted the following report, which was also received and approved by the Association:

Mr. President and Gentlemen of the Kentucky State Medical Society:—I herewith take pleasure in presenting the report of the Secretary of the thirty-second annual session of the Kentucky State Medical Society. The Society is the honest exponent of the medical profession of the State, pure and simple, and it is recognized as an honor for any man to have his name registered on its rolls. We stand covenanted to the old, historic code of ethics.

During the year past the Secretary's office has been in frequent receipt of letters and papers of inquiry from life insurance companies, from medical

examining boards, and State Boards of Health, also from editors of various medical journals, and many doctors from distant States have sent queries relative to professional matter in this Commonwealth, to all of which I have replied promptly, courteously, and to the best of my ability.

There have been issued from this office, including minutes of the previous session, seven hundred and fifty letters, circulars, and postal cards. A copy of the minutes of the session of 1886 was mailed to each Secretary of the several State societies, and the same courtesies have been extended to us in return from almost every State Medical Association. A copy of my account is filed herewith as a part of this report.

It is very gratifying for me to state that in its history of more than thirty years, the Society at present exhibits as much, if not more activity, more enthusiasm, than in any previous year. The programme which has been prepared for this meeting, and now in your hands, is a most interesting one; and in the number of voluntary papers is beyond precedence, which is illustrative of the worth of this Society.

The duties of this office, at times onerous and difficult of satisfactory fulfillment, have been performed with dispatch and cheerfulness. I have labored diligently for success, and I trust that my humble reports will meet with the approbation of this honored Society.

STEELE BAILEY, M. D., *Permanent Secretary.*

Paducah, June 15, 1887.

The following are the monies furnished by Dr. Steele Bailey to the Kentucky State Medical Society, during the year ending June 15, 1887, the treasury being void of funds:

Expressage paid for books to and from Paducah	\$2 75
Stamps and stamped envelopes	6 00
Paper wrappers (one cent each)	3 00
300 postal cards	3 00
600 one cent stamps	6 00

Total \$20 75

The report of the Librarian was called for, but he being absent no report was made.

Dr. E. R. Palmer, Louisville, for Dr. G. W. Burton, Secretary of the Mitchell District Medical Society of Indiana, extended an invitation to this Society to meet with that body at French Lick Springs. By a unanimous vote thanks were returned for the polite invitation.

The following resolutions were offered by Dr. L. S. McMurtry, Danville, and unanimously carried:

Resolved, That the recent published attack upon the personal and professional reputation of Dr. Dudley S. Reynolds, of Louisville, is unfounded and unjust.

Resolved, That the Kentucky State Medical Society, in regular session assembled, bears testimony to the high professional and social standing of Dr. Reynolds, and repels the aspersions against a physician who, for fifteen years, has ranked amongst its foremost members.

The Committee of Arrangements and Credentials recommended the following candidates for membership, all of whom were duly elected:

I. N. Bloom, M. D., Louisville; Jno. Y. Brown, M. D., Henderson; L. F. Baird, M. D., Birdsville; J. G. Bohannon, M. D., Greenville; W. M. Cowgill, M. D., Paducah; J. B. Coleman, M. D., Murray; S. G. Dabney, M. D., Louisville; C. A. Elliott, M. D., Paducah; Alex. A. Farris, M. D., Hickman; A. N. Griswold, M. D., Paducah; A. R. Jenkins, M. D., Henderson; L. D. Knott, M. D., Bradfordsville; Edward Kelly, M. D., Lebanon; D. G. Murrell, M. D., Paducah; W. M. Mason, M. D., Murray; J. W. Mott, M. D., Fulton; N. G. Morris, M. D., Fulton; Jno. A. Ouchterlony, M. D., Louisville; W. G. Ouchterlony, M. D., Louisville; Henry Orendorf, M. D., Louisville; D. D. Robertson, M. D., Calhoun; J. D. Smith, M. D., Paducah; Julius A. Smith, M. D., Paducah; J. W. Thomas, M. D., Mayfield.

The Society then adjourned till 2 o'clock P. M.

AFTERNOON SESSION.

The Society convened promptly at 2 o'clock, with President Wathen in the chair.

Dr. J. B. Marvin, Louisville, read the report on "Progress of Practical Medicine." Discussion by Drs. J. A. Ouchterlony, D. T. Smith, Louisville, and Arch Dixon, Henderson.

Dr. Andrew Seargent, Hopkinsville, next read the report on the "Advantages and

Uses of Cocaine," which was discussed by Drs. J. H. Letcher, Henderson; M. F. Coomes, Louisville; J. G. Carpenter, Stanford; George Beeler, Clinton; W. O. Roberts, Louisville; A. R. Jenkins, Henderson; D. T. Smith, Louisville.

The following telegram was read by the Secretary:

PEMBROKE, KY., June 15, 1887.

Dr. Steele Bailey:—Assure the President and members of the Society that only the impossible could have prevented me being with them. I am with you in spirit, however, if absent in the flesh.

Fraternally, J. P. THOMAS.

Dr. Wm. Cheatham, of Louisville, read the report on the "Progress of Ophthalmology."

Dr. I. N. Bloom, Louisville, read a paper on the "Permanent Removal of Superfluous Hairs by Electrolisis," operating upon a subject before the Society, illustrating his method.

The Society then adjourned till 8 o'clock, P. M.

EVENING SESSION.

The Society convened at 8:30 P. M., and was called to order by Dr. Jno. G. Brooks, chairman Committee of Arrangements.

Dr. W. H. Wathen, President, was introduced to the audience by Dr. Brooks. He then read his address on "Specialties in Medicines."

Dr. Joseph M. Mathews, of Louisville, next delivered a popular address on "How to be Happy." On motion of Dr. J. A. Ouchterlony, a vote of thanks was extended to Dr. Mathews for his interesting and eloquent address.

The President announced the Committee on Nominations, and on motion the Society adjourned to meet at 8:30 o'clock, Thursday.

SECOND DAY. THURSDAY.—MORNING SESSION.

The President, Dr. Wathen, called the Society to order at 8:30 o'clock A. M., and announced that the first business before

it would be the election of officers for the ensuing year.

The Nominating Committee, through its chairman, Dr. Jno. A. Ouchterlony, made the following report, viz:

President, Dr. Jno. G. Brooks, Paducah; First Vice-President, Dr. L. S. McMurtry, Danville; Second Vice-President, Dr. Geo. Beeler, Clinton; Permanent Secretary, Dr. Steele Bailey, Stanford; Assistant Secretary, Dr. T. F. Dunlap, Danville; Treasurer, Dr. Edward Alcorn, Hustonville; Librarian, Dr. J. L. Taylor, South Union. Board of Censors, Dr. Dudley S. Reynolds, Chairman, Louisville; Dr. J. H. Letcher, Henderson; Dr. Wm. E. Rodman, Hodgenville; Dr. Andrew Seargent, Hopkinsville; Dr. J. R. Evans, Riley; Dr. S. W. Willis, Winchester. Chairman of the Committee of Arrangements, Dr. E. R. Palmer, Louisville, with plenary power to fill the committee. Place of meeting, Crab Orchard Springs. Time, first Wednesday in July, 1888.

On motion the report of the Committee was unanimously adopted.

The President-elect, Dr. J. G. Brooks, Paducah, was then introduced to the Society, who, in a few happy sentences, expressed his gratitude for the honor conferred upon him.

Dr. J. N. McCormack, Bowling Green, moved that a committee of three be appointed to revise and have printed the By-laws, Constitution, and the Roll of the Society, whereupon the chair nominated Dr. J. N. McCormack, Chairman, Dr. Steele Bailey, and Dr. M. F. Coomes, said Committee.

Dr. L. S. McMurtry, Danville, read a communication from Dr. R. J. Dunglison, of Philadelphia, Chairman of the Finance Committee of the Ninth International Medical Congress, asking this Society to contribute funds for the defraying of the expenses of the Congress. On motion of Dr. E. R. Palmer, which was unanimously adopted, the Secretary was instructed to draw upon

the treasury of the Society for two hundred and fifty dollars, and immediately send draft for this amount to Dr. Dunglison.

On motion, Dr. J. G. Bohannon, Greenville, was permitted to read a paper on "Compound Comminuted Fracture of the Skull." He also exhibited the patient and a large plate of bone removed from the skull.

Dr. O. D. Todd, Eminence, read the next paper, on "Surgical Emergencies," which was discussed by Drs. J. M. Mathews, E. von Donhoff, Louisville; A. R. Jenkins, Arch Dixon, Henderson; T. B. Greenly, West Point; and Geo. Beeler, Clinton.

Dr. Dudley S. Reynolds, Louisville, then offered the following resolution:

WHEREAS, we have on our floor an accredited delegation from the Kentucky State Pharmaceutical Association, asking the establishment of mutually amicable relations between the professions of pharmacy and medicine in Kentucky.

Resolved, Therefore, that the delegation from said Association be invited to sit with us and participate in our deliberations.

Carried.

Dr. T. B. Greenly, West Point, then read a paper entitled "Is Malaria an Entity?"

On motion of Dr. J. N. McCormack, a vote of thanks was tendered Dr. Greenly for the excellence of his paper.

Dr. E. R. Palmer, Louisville, next read his report on "Genito-Urinary Diseases," the discussion of which was opened by Dr. D. S. Reynolds, followed by Dr. W. O. Roberts, and Dr. I. N. Bloom, Louisville.

Dr. L. S. McMurtry, Danville, read the report on "Abdominal Surgery," which was discussed by Dr. Arch Dixon, Henderson; Dr. J. N. McCormack, Bowling Green; Dr. A. R. Jenkins, Henderson.

The Society then adjourned till 2 o'clock, P. M.

AFTERNOON SESSION. The Society convened promptly at 2 o'clock, with the President in the chair.

The President introduced Dr. Vincent Davis, of Louisville, representing the Ken-

tucky State Pharmaceutical Society, who made an earnest plea for amicable relations between the Society he represented and the Kentucky State Medical Society.

Dr. J. N. McCormack, Bowling Green, moved that a committee of three be appointed to confer with the representatives of the Pharmaceutical Society and formulate definite plans for amicable and fraternal relationship between the two bodies. Carried, and the following were placed upon the committee: Dr. J. N. McCormack, Bowling Green; Dr. J. A. Ouchterlony, Louisville; Dr. L. S. McMurtry, Danville.

Dr. J. M. Mathews, Louisville, then made a report on "Diseases of the Rectum," which was discussed by Dr. T. B. Greenly, West Point, and Dr. Edward von Donhoff, Louisville.

Dr. Jno. A. Ouchterlony, of Louisville, read a paper, "The Prophylaxis of Pulmonary Tuberculosis," which was discussed by Dr. D. S. Reynolds, Louisville, and Dr. L. S. McMurtry, Danville.

Dr. M. F. Coomes' paper, "Report on Laryngology," was read by title by permission of the Society.

Dr. A. R. Jenkins, Henderson, read a paper on the "Modern Treatment of Wounds," which was discussed by Dr. L. S. McMurtry, Dr. von Donhoff, Dr. W. O. Roberts, Dr. J. N. McCormack, and Dr. J. D. Thomas.

Dr. Edward von Donhoff, Louisville, read by title his paper on "The Natural Method of Plastic Surgery."

Dr. Dudley S. Reynolds, Louisville, then made the report on "Recent Discoveries in Pathology."

Dr. J. N. McCormack, Bowling Green, read a paper on "The Prevention and Spread of Contagious Diseases."

Dr. J. Morrison Ray, Louisville, was permitted to read by title his report on "The Indications and Contra-Indications for the Use of Hot and Cold Applications in Ophthalmic Practice."

The Society then adjourned to meet Friday at 8:30 A. M.

FRIDAY.—MORNING
SESSION.

The Society was called to order by Dr. Jno. G. Brooks, who announced that the President had been called away, and wished to know the pleasure of the Society.

Dr. Jno. A. Ouchterlony offered the following:

Mr. President and Gentlemen:—I expect that for the first time in the history of this Society it finds itself without a presiding head before the close of the regular session. The distinguished President refuses to grace this meeting with his presence.

The President, owing to the arrival of a mysterious message, silently folded his tent and, like the Arab, silently stole away. So here we are, a few members and not a President. Under such circumstances we find in the second section of the By-laws of the Society that we are required to elect a President, *pro tem*. I move that Dr. J. G. Brooks be elected President, *pro tem*.

The Secretary put the motion and Dr. Brooks was unanimously elected.

Under miscellaneous business reference was made to a resolution read on Thursday by the Secretary, concerning resolutions with the Kentucky Pharmaceutical Society.

Dr. Ouchterlony offered the following motion:

In view of the absence of the distinguished gentleman who framed this resolution; and in view of the absence of the President, and those who were appointed to discuss that resolution, I move you that it remain on the table.

The motion prevailed.

Dr. J. M. Ray offered the following resolution, which was adopted:

Resolved, That the Kentucky State Medical Society offers its most grateful thanks to the Committee of Arrangements and the profession of Paducah for the generous hospitality extended us during the present meeting.

Resolved, That we congratulate the officers of this Society for the efficiency and dispatch with which the duties of their positions have been performed.

Resolved, That the cordial thanks of this Society are due the various railroads for their liberality in reductions of fares.

Resolved, That the Society will hold in most

pleasant remembrance the beautiful and intellectual ladies of Paducah for many courtesies shown its members, and that we go from this city with happy impressions of the hospitality of its citizens.

The President *pro tem*. then announced the following Standing and Special Committees, to report at the next annual meeting:

Committee on Improvements in Practical Medicine—J. A. Ouchterlony, M. D., Louisville.

Committee on Public Hygiene—George Beeler, M. D., Clinton.

Committee on Improvements in Obstetrics—J. W. Irwin, M. D., Louisville.

Committee on Improvements in Surgery—W. O. Roberts, M. D., Louisville.

Committee on Improvements in Genito-Urinary Diseases—E. R. Palmer, M. D., Louisville.

Committee on Improvements in Abdominal Surgery—J. N. McCormack, M. D., Bowling Green.

Committee on Orthopedic Surgery—Edw. von Donhoff, M. D., Louisville.

Committee on Pathology—D. S. Reynolds, M. D., Louisville.

Committee on Dermatology—I. N. Bloom, M. D., Louisville.

Committee on Laryngology—W. Cheatham, M. D., Louisville.

Committee on Ophthalmology—J. M. Ray, M. D., Louisville.

Committee on Diseases of the Rectum—J. M. Mathews, M. D., Louisville.

Committee on Gynecology—L. S. McMurry, M. D., Danville.

Committee on Surgical Appliances in the Treatment of Diseases of the Nose and Throat—M. F. Coomes, M. D., Louisville.

Committee on Medical Ethics—O. D. Todd, M. D., Eminence.

Committee on Antipyretics or the Therapeutics of Fever—H. J. Cowan, M. D., Danville.

Committee on Necrology—Pinckney Thompson, M. D., Henderson.

Dr. Archibald Dixon, Henderson, then

read a paper entitled "External Urethrotomy with Retrograde Catheterization," which was discussed by Dr. W. O. Roberts, Louisville.

Dr. J. D. Smith, of Paducah, read a paper on "Some Forms of Uterine Diseases," which was discussed by Dr. D. T. Smith, Louisville.

Dr. C. A. Elliott, Paducah, read a paper on "Pneumonia," which was discussed by Dr. J. A. Ouchterlony, Louisville.

Dr. S. G. Dabney, Louisville, read by title a paper on the "Effects of Astigmatism of Low Degree."

Dr. J. M. Jackson, of Columbus, Ky., read a paper on "Cholera," which was discussed by Drs. D. T. Smith and J. A. Ouchterlony, Louisville.

Dr. L. Beecher Todd, Lexington, made the report on "Necrology," which was sent to the Secretary and read by title.

Since our last meeting we are called to mourn the loss of two most worthy and distinguished members: Dr. Daniel Drake Carter, of Versailles, and Dr. Garrett Davis Buckner, of Lexington.

The following gentlemen were appointed by the chair as delegates to the American Medical Association, which meets at Cincinnati, in May, 1888:

D. S. Reynolds, J. M. Mathews, J. B. Marvin, E. R. Palmer, M. F. Coomes, J. M. Ray, J. A. Ouchterlony, W. H. Wathen, Ed. von Donhoff, W. Cheatham, Louisville; Steele Bailey, and J. F. Peyton, Stanford; J. B. Evans, Riley; Ed. Kelly, Lebanon; George Beeler, Clinton; W. Cowgill, and J. G. Brooks, Paducah; O. D. Todd, Eminence; L. S. McMurtry, Danville; R. M. Fairleigh, Andrew Seargent, Hopkinsville; J. N. McCormack, Bowling Green; A. R. Jenkins, J. H. Letcher, Henderson.

On motion of Dr. Ouchterlony, a vote of thanks was tendered the President *pro tem.* and the Permanent Secretary for faithfulness in duty.

On motion of J. M. Ray, a vote of thanks was extended to the papers of the city for many courtesies shown the Society.

The Society then adjourned to meet at Crab Orchard Springs, the first Wednesday in July, 1888. J. STEELE BAILEY, M. D.,

Permanent Secretary.

MITCHELL
DISTRICT
MEDICAL
SOCIETY.

Official Minutes of the Fifteenth Annual Session.

BY
G. W. BURTON, M. D.,
Secretary.

The Mitchell District Medical Society, of Indiana, met in fifteenth annual session at the historic watering place, "*French Lick Springs*," June 30, July 1 and 2.

This noted "health resort" was settled by a party of French from Old Fort Vincennes, about A. D. 1754, and, tradition says, in that year there was an old French fort near the site of the present hotel. Previous to this settlement by the French it was known as a popular camping ground of the Miami Confederation of Indians, and doubtless for years before the coming of the French its famous waters were well known to many of the tribes of the Mississippi Valley, for tradition further says, that at the time of the first white settlement Indian trails from every part of the country seemed to center there; in fact no place in the Mississippi Valley seemed to be so well and generally known by the Indians as the Lick. The old trail from Southeastern Indiana to Fort Wayne was out of line about forty miles, and probably twenty or more miles from Vincennes to the Ohio Falls, and from many other points in Kentucky, Illinois, and Ohio, the usual air-line of the Indian trail was made circuitous for the purpose of reaching this famous camping ground, showing that our "red brethren" appreciated the water as a special gift to them from the "Great Spirit."

In 1807 a small fort, similar to those at Kaskaskia and Fort Wayne, was built, or rather rebuilt, on the same spot of the old French fort, near which, in 1813, while occupied by a company of rangers, William Charles, who, with his wife and child, occupied the

fort, was killed by the Indians. The grief of the distressed widow was so great that in a few months thereafter her reason was dethroned, so that Orange County's first case of insanity occurred in the latter part of 1813.

So far as known to the writer this famous watering-place was generally known *first* under the management of the late Col. W. A. Bowles, who had a complete analysis of the water made, since which time visitors have been going there from all parts of the country, but principally from Louisiana, Tennessee, Kentucky, Ohio, and Illinois. The diseases that seem to be most benefited are rheumatism, scrofula, syphilis, skin disease, indigestion, constipation, etc.

About sixty members repended to roll-call, with about fifty visitors, including the R. R. Surgeons of the L., N. A. & C., about twenty of whom joined the society.

In the absence of the President, Dr. A. J. McDonald, of Mitchell, Vice-President, called the Society to order at 2 P. M.

After prayer by Dr. W. W. Blair, of Princeton, Dr. U. H. Hon, of French Lick, delivered the address of welcome. It was a happy effort. Want of space prevents our printing it.

Following Dr. U. H. Hon's address, was Dr. S. H. Charleton's, of Seymour, President of State Society, on behalf of Indiana, extending a welcome to the visitors from other States.

Dr. G. Q. Orvis, of Seymour, read a paper, entitled Laryngitis, Etiology, and Treatment. (See page 11).

Dr. G. V. Woolen, of Indianapolis, said he was very much pleased with the paper, and fully agreed with the author that laryngitis was very intimately associated with disease of the nose, and if successfully treated can be depended largely upon in correct nasal treatment.

But he would have to object to the author's method of accounting for it. He did not believe the secretion passed into the larynx, and then irritated the organ, as nature had

specially provided against liquids of any kind entering the larynx. He believed it was the result of mouth-breathing, and spread by continuity of structure involved in the inflammatory process, and thus often spread not only to the larynx but to the other respiratory passages.

That much of the so-called tubercular phthisis of the day was only of catarrhal origin, and the etiological factors should be only of two kinds, those originating from without, and those from within, the largest proportion being from without, and preventable or curable.

He would also disagree with the author in his methods of treatment, not having any great appreciation for chromic or any other of the acids. His regard for these was so great that he often thought the nose was made for the snore, and not the snore for the nose. If any cautery was to be used he thought there was none to be found which equaled the "London paste," which, after long and persistent use, had answered every end which could be gained by a cautery, being manageable, thorough in its effect, and producing the desirable eschar and proper cicatrix afterward.

Dr. N. D. Gaddy, of Lovett, Ind., read a paper on "Treatment of Hemorrhage from the Bladder by Hamamelis Virginica."

Dr. Charleton said, about five years ago, when in consultation with Dr. Gaddy, he called my attention to the great value of "Hamamelis Virginica," in the treatment of hemorrhage from the kidneys and bladder, as well as a very reliable remedy in chronic cystitis, and since that time I have used it in a large number of cases, in most of which it afforded marked relief. In a chronic case of several years' standing, in which the urine contains pus and blood constantly, its use afforded great relief to the patient, by checking the discharge of blood, and reducing the quantity of pus in a few days, and he has continued its use for about one year, and thinks he could not do without it. I have found it of great service in

nearly all cases of chronic cystitis, regardless of the causes, and I think it still more serviceable when combined with eucalyptus.

My formula is, equal parts elixir eucalyptus and fluid ext. hamamelis, of which I give a teaspoonful every three or four hours, according to the urgency of the symptoms. The formula for the elixir eucalyptus which I use was obtained from a small book published by the New York and Brooklyn pharmacists, and is not officinal. I am glad Dr. Gaddy has presented this paper to the Society, giving his experience in the use of this remedy in the treatment of this class of troubles, and hope he will continue his investigations and that others will give this remedy a trial in cases of chronic cystitis, which are so annoying to the patient, generally, and so hard to relieve with our old remedies.

The paper was referred to Committee on Publication.

Dr. D. C. Peyton, of Jeffersonville, read a paper on "Practice of Medicine as a Calling," which was referred to Publishing Committee.

At the evening session of the society, Dr. Davis, of Chicago, Chief Surgeon L., N. A. & C. Railroad, presented to the society his views of some railroad injuries affecting the spine, with some rare statements in reference to expert testimony in courts of justice, showing from some cause the profession was not in unison. The doctor believed that this class of injuries had not been carefully studied, and he hoped that societies would fairly investigate this class of cases to the end that when they come to testify in courts there will be greater unanimity.

SECOND DAY'S

SESSION.

Dr. W. Rodman, President, appointed the following committees: On Nomination, Drs. Charleton, Peyton, Simpson, Gaddy, and Murphy. On Place of Next Meeting, Drs. Orvis, Newland, and Laughlin.

Dr. S. E. Munford, of Princeton, read a most excellent paper on "Diseases of the Mastoid Cells." (See page 9).

Dr. J. M. Ray, of Louisville, said diseases of the mastoid bone and its periosteal covering should be carefully studied by all general practitioners, because they are as a rule first consulted. Especially is this true of periostitis, for it is most apt to occur in acute ear inflammation. Disease of the cells and their bony wall is not common. This, when it does occur, the prognosis is of such gravity that its prevention should occupy our attention. It occurs in chronic suppuration, and for this reason chronic discharge from the ear should be watched, for, as Wilde has truly said, so long as we have a running from the ear we never can tell how, when, or where it will end or what it will lead to. It has always been my practice when I see a case of periostitis of the mastoid to make a good, free incision through the swelling down to and through the periosteum. The sooner and more extensive the incision the quicker will the case recover, and less danger is met with from defective drainage. When the air cells are invaded we should not satisfy ourselves by simply incising the tissues over the prominence, but by a drill or trephine open up a place for escape of the confined pus. I have seen more than one death that showed, post-mortem, the result of neglect in this regard.

Dr. J. Gardner, of Bedford, read a paper on "Water." He gave the society a synopsis of the different kinds of water of which he knew, and gave it as his opinion that H₂O would not answer in every case for the formula.

Dr. J. M. Mathews, of Louisville, introduced the subject of "Chronic Constipation." He said nothing tended so much to breed disease as this condition. It is claimed by men eminent in the profession that "chronic constipation" produces a condition of the system that is the foundation of fatal ailments. He reported cases that had come under his observation in which the

bowels had moved once a month and others twice a month. He called attention to O'Bierne's statement that the same kind of folds belonged to the rectum as œsophagus, and hence to be in a normal condition it should be clear of all fecal matter. He said, that modesty peculiar to the American girls has much to do with the constipation observed in them during their school life.

Dr. Blair, of Princeton, said that according to his opinion a great many of those cases were induced or caused by not drinking a sufficient quantity of water. Some ladies of his acquaintance seldom drank water. One, whom he questioned on the matter, could not tell when she drank water last.

Dr. D. W. Yandell, Louisville, said the causes were innumerable—chlorosis, want of exercise, proper diet, etc. A great many of the school girls are cured of their constipation by exercise; those that are nervous by nux vomica, and still others by regulation of the diet.

Dr. Harvey said it had been his observation that one can not secure the same effect from an even dose of medicine for a long period of time, but that it is necessary to increase the dose, and that for want of observing this in the treatment of cases he believed to be one of the reasons for failure.

Dr. W. H. Wathen, of Louisville, believed in the cultivation of habit.

Dr. Cecil, of Louisville, read a paper on "Medicating a Child Through the Milk of the Mother." It was discussed by Drs. Harvey, Charleton, and Hon, and afterward referred to the Publishing Committee.

EVENING SESSION.

Dr. J. M. Ray, of Louisville, Ky., read a paper reporting three cases of tobacco amblyopia. Two of these were uncomplicated cases that showed plainly the toxic effects of tobacco upon the visual apparatus. Both were excessive users of tobacco, and in both the sight improved simply by a discontinuance of the weed. The improvement was, however, slow, and to hasten it

hypodermic injections of strychnia sulphate were employed. The symptoms and methods of detecting amblyopia were given; since it produces no gross change in the ocular fundus, its detection at times might be difficult. Strychnia, he said, had a most wonderful stimulating action upon the nervous portion of the visual organs, as shown by testing the sight in tobacco amblyopia, then giving an injection of about one fortieth grain strychnia, waiting fifteen minutes, then testing the sight again. It will be found to have improved several times in its power to detect letters at twenty feet. He said the effects of tobacco upon the optic nerve appears simply as a functional disturbance of its vascular supply. Reasoning from the changes that occur in other parts of the body under like circumstances, this disturbance is maintained for any great length of time organic alterations in the nervous fibers must supervene, and finally atrophy will occur. A case of atrophy where this seemed to be the explanation was cited. In this class of cases he thought that while strychnia produced wonderful effects, its action was only temporary.

Public address by Dr. J. M. Mathews: "How to be Happy."

The doctor said that he proposed to answer the question from a medical standpoint. That the priest would say, "Serve your God;" the statesman, "Serve your country;" but the doctor would reply, "Serve both, but in the so doing serve yourself." He attributed much of our unhappiness to the high-pressure life which is characteristic of the nation, and remarked, that it was no wonder that the asylums are filled with the insane, the hospitals crowded with sick, and private homes made charnel houses for the dead. He dwelt upon the fact that although Camper, Flourens, and others had taught that the normal life term should be ninety years, it was really but thirty-three. He considered that something was radically wrong with our habits, modes of living, eating, drinking, etc.

He took occasion to severely condemn fashion's dictates, and scored the methods of teaching physiology and hygiene in our public and private schools. Contending that health is happiness, he took the position that it was the duty of all in authority, both local, state, and national, to preserve the public health.

The effect of over brain work was considered in all its bearings, contending that the brain was no exception to the organic law that use causes decay. It was demonstrated that insomnia, the disease which wrecks so many, was due to this over-taxing of the brain.

The precociousness of children was considered, and parents censured for the display of their offspring in this way. The mother who delights to show the acts of her precocious child may live to see it an imbecile because of her imprudence, said the doctor. The methods employed in our public schools in regard to ventilation, the confinement of pupils, the poor construction of buildings, the want of exercise, etc., was fully considered and denounced. "The hand that rocks the cradle is the hand that rules the world," quoted the doctor, and great specimens indeed are they that you are giving us for this purpose. Flat-breasted, round-shouldered, thin-visaged girls, who live a butterfly life, and die a premature death.

As a remedy against all these things that filled the world with unhappiness he called for a halt in our pell-mell life, and a rest for over-taxed brains. Pleasure seeking should be made compulsory, dispositions of melancholy changed to mirth, tears turned to smiles, and sad faces made to shake with laughter. An æsthetic taste should be cultivated in the young, for without it there could be no appreciation of the grand or beautiful. Infinity, unity, sympathy, purity, gentleness, and harmony would be but mystical terms; a magnificent piece of statuary but a block of marble; a fine painting but a square of canvass; a waltz from Strauss

but a clattering of instruments; the sublime architecture of Westminster or St. Peter's would appear but the piling of stones upon each other; the grace and elegance of movement in the dance but so many antics; the trilling notes of the singer would grate harshly on the ear, and sweet-scented flowers would lose their sweetness on the desert air.

THIRD DAY.

H. M. Smith, of Vincennes, read a poem, "Paradox on Darwinism."

Paper of Dr. Banker, of Columbus, Ind., read by title. (See page 1).

"Report on Medical History," by Dr. S. A. Rariden.

"Vital Statistics," by Dr. N. Field, Jeffersonville, read by title and referred for publication.

Committee on Nomination reported as follows:

President—G. Q. Orvis, Seymour, Ind.

Vice-President—J. D. Maxwell, Bloomington, Ind.

Secretary—G. W. Burton, Mitchell, Ind.

Committee of Arrangements—N. N. Shipman, C. B. Casey, M. F. Gerrish, Seymour, Ind.

Committee on Programme—T. S. Galbraith, Seymour, Ind.; N. D. Gaddy, Lovett, Ind.; G. W. Burton, Mitchell, Ind.

After a vote of thanks to the chairman of the Committee of Arrangements, Dr. U. H. Hon, and the proprietor of French Lick Springs, the society adjourned to meet in Seymour December 22 and 23, 1887.

MISSISSIPPI

VALLEY MEDICAL ASSOCIATION.

Thirteenth annual meeting, held at Crab Orchard Springs, Ky., July 13, 14, and 15, 1887.

[Stenographically reported for PROGRESS.]

The thirteenth annual meeting of the Mississippi Valley Medical Association was called to order at 3 P. M., July 13th, by the Chairman of the Committee of Arrangements, Dr. Dudley S. Reynolds, at Crab Orchard Springs, Ky. The attendance at the opening was quite large.

Dr. Reynolds introduced Mr. L. J. Frazee, the Manager of the Crab Orchard Springs Hotel, who, in a few well chosen words, welcomed the Association to the Springs, after which Mrs. Tarrant read an original poem contributed for the occasion.

The Chairman of the Committee of Arrangements announced that the sessions would be limited to the day time on account of the great heat. That favorable rates had been secured from most of the railroads over which the delegates would travel.

Letters of regret at inability to be present, were read from Surgeon General J. B. Hamilton, J. J. Chisolm, A. L. Gihon, W. Wyman, Prof. Pancoast, and many others.

The annual report of Dr. A. H. Ohmann-Dumesnil, as Treasurer, was read. The report was ordered filed.

On motion of Dr. Porter, the report of the Committee on the Formation of a Constitution was put over until Thursday morning. Drs. Reynolds and Ohmann-Dumesnil were added to the committee.

On motion of Dr. A. M. Owen, of Evansville, Ind., the Chairman of the Committee of Arrangements was ordered to reply to the letters received from members and invited guests.

A recess of fifteen minutes was taken to enable members to register.

Upon reconvening Dr. John E. Link, of Terre Haute, Ind., read an elaborate paper on "Penetrating Wounds of the Abdomen." The doctor reported three cases of gunshot wound of the abdomen, in which no surgical interference was had:

The first was a small boy who, in carelessly handling a pistol, received a shot near the umbilicus. He was thoroughly narcotized with opium and whisky, and the knees kept well up to the body with the head and shoulders well forward. The child recovered.

The second case was that of a man who received a shot just below the umbilicus with a 32-calibre ball. He was kept with

the body well flexed to the front, and completely narcotized with opium and whisky for ten days, at the end of which time fluid food was administered. No effort was made to probe the wound or diagnose its course. The case completely recovered.

The third case was that of a boy who carelessly shot himself by exploding a railroad torpedo. Laparotomy was performed. The first wound was found to be a chip through the side of the ilium and on through the mesentery at its attachment to the gut. The hemorrhage was excessive. A second wound was found on the convex side of the gut passing through leaving a small portion of the intestine between on the side of the superior curvature. The third wound was through the gut, clipping it so as to make in it a single hole large enough to admit the index finger at the lesser curvature of the mesenteric attachment. The missile consisted of a fragment of the shell, weighing two grains, and was found imbedded in the mesentery. After the operation large doses of whisky and paregoric were administered, and the boy made a complete recovery. The doctor related the above cases with the view of establishing the following principles:

1. An abdominal wound should never be probed unless with a grooved director as a guide to the scalpel.
2. Many wounds of the cavity and viscera may recover with fixation, narcotization, and abstinence from food.
3. The cavity is susceptible of invasion by the surgeon in recent injuries as well as for other conditions.

In opening the discussion of the paper Dr. W. C. Wile, of Philadelphia, said he was sorry to be obliged to take issue with the author as to his whole method of treatment. He believed it good surgery to make an exploratory incision in every case of penetrating wound of the abdomen. He believed that it was best to avoid as far as possible the use of opium in any form. He believed it the practice of the most successful operators, both at home and abroad, to

steer as clear of opium as possible in the class of cases under discussion. He thought with Lawson Tait that when there was pain and tenderness with elevation of temperature and acceleration of the pulse that it might be overcome by giving an active purgative. Because one case was phenomenal he did not believe we could ignore the fact that where there is hemorrhage and dirt every particle must be removed as speedily as possible. A physician has no right to do any thing that would jeopardize the life of his patient, and this is done when any debris is left in the abdominal cavity that can by any possibility be removed.

Dr. A. M. Owen, of Evansville, Ind., asked if Dr. Wile used opium as a preventive of peritonitis. The doctor replied that he did not use opium except where there was a full peritonitis.

Dr. H. H. Mudd, of St. Louis, said that the paper illustrated two points in abdominal surgery. The paper recorded two cases that recovered without surgical interference, and one with the use of the knife. He was not prepared to say that there was a fixed rule that the abdomen must be opened in every case. This does not apply to punctured or penetrating wounds. Every one could agree with Dr. Wile that where there is any foreign substance in the abdominal cavity it should be removed. A very important lesson might be learned from the Indians, who always go into battle with an empty stomach, as the risks of any accident to the abdominal viscera are much less than if the stomach be distended with food. In cases of cut wounds or stabs, Dr. Link was right in not probing unless there was an exploratory incision. He believed that the opium which the doctor gave was with the idea that by keeping the bowels quiet an inflammatory adhesion might be made which would circumscribe the peritonitis. This usually occurs however without the use of opiates. He does not use opiates except for the relief of pain. The practical difficulty in these cases is to determine when to open

rate. The boldest operators make the exception that it shall not be undertaken in profound shock. He thinks that after having failed to make the primary operation we should wait for extravasation, or for evidence of serious disorder, or until the peritonitis is quite marked. In cases of simple peritonitis we get no influence from an operation. It is in the cases where some foreign body is present. We have no therapeutic indication in operative measures except where there is a distinct evidence of foreign substance in the abdominal cavity.

Dr. A. M. Owen, of Evansville, Ind., agreed with Dr. Wile as to the use of opiates after peritonitis had been established. He used it sometimes as a preventive to make it circumscribe the peritonitis. He considered that conservative measures should be employed in many cases. He was not in favor of opening the abdomen without good cause.

Dr. A. Dunlap, of Springfield, Ohio, said he could not refrain from answering Dr. Wile regarding the treatment of abdominal wounds. There was a time when the abdominal cavity was considered sacred. If the abdominal cavity was opened it was certain death. When McDowell opened the abdomen and removed the ovaries the profession said it could not be done. The first thirteen operations were done without the use of chloroform, only with opium, and eight recovered. The operation was rejected until 1843, when AtLee operated, and Dunlap a few months later. It was looked upon as a traveling quack performance. At the first seven operations he was unable to get the regular profession to witness. Every case recovered. He considered that Lawson Tait had followed the directions laid down by himself long since. Thoroughly cleanse the abdominal cavity when it is opened. But opium must be used. In those where sufficient opium was not used he had trouble. He would give up laparotomy if he had to give up the use of opium. He considered that the nearer the patient

could be kept asleep for the first five days the better. He wanted the kidneys free. The pain will run the pulse up, and the pain will keep it there. In these cases there is not often peritonitis. It is septic poisoning that gives the trouble. He does not believe in the microbe theory. But the entrance of air into the abdominal cavity, coming into contact with the serous fluid, makes a fine field for the cultivation of bacteria. Opium he considered to have the power of controlling inflammation. He favored long incisions in the abdominal wall, and never leaves the stitches in longer than three days. He has had no trouble from hernia.

Dr. L. S. McMurtry said that Dr. Dunlap had enunciated the very point of most importance in the treatment of the abdominal cavity. It is not so much the injury of the parts as it is septicemia that is dreaded. We all agree as to the treatment of these cases. We must come to recognize the fact that all peritonitis is septic, and its proper treatment is abdominal section. In the expectant treatment of abdominal wounds by opium, turpentine stupes, and the like, mortality is about ninety per cent, while with laparotomy the mortality is eight per cent.

In a case of penetrating wound of the abdomen you give the patient the best possible chances for recovery by early operation so that the abdominal cavity may be thoroughly explored. The case of Dr. Dunlap in which a cyst that came out readily and had a long pedicle was removed and the patient soon after died, was very interesting. He said it was the admission of the air and the resulting decomposition that caused septicemia. In that very statement he gave the modern view of the disease. It was the admission of air, and the microbe was there, and he settled with his family. They all flourished and grew, and soon exhausted the rich fluids of the peritoneum.

Dr. Y. H. Bond, of St. Louis, said that the question was of interest to him, especially as regards the use of opium in peritonitis. As he understood Dr. Link, he advocated

the use of opium to such an extent as to produce rather profound narcotism with the view of preventing peritonitis. Dr. Wile deprecated its use, holding that it has no preventive action. He thought both positions extreme. We should always use opium to relieve pain. It should always be used to a moderate degree, and if there is much pain it must be used to a marked extent. He thought that while the practice of Lawson Tait in the use of purgatives in peritonitis had been correctly stated, he did not feel that the explanation given, viz., that the purgative afforded relief by removing plastic lymph and inflammatory products was a correct one. He believed that the true explanation of their beneficial action lay in the fact that the symptoms of obstruction of the bowel resulting from peritoneal adhesions were confounded with peritonitis, and their beneficial agency resulted from the breaking up of the recent adhesions.

Dr. A. C. Bernays, of St. Louis, said that out of his thirty-two ovariectomies eleven had died. At first he was opposed to Listerism. Within the past two and a half years he has used the antiseptic method almost exclusively. He believed that in every case of penetrating wound of the abdomen an exploratory incision should be made because it added in no way to the existing danger. He advised the use of the probe, and if need be the director. He thought there was no danger in probing if the probe and the fingers were aseptic. One should establish in the first place that the wound was penetrating, and then in every case open the abdomen.

Dr. Link, in closing the discussion, said that he had been much misunderstood. There was nothing in the paper to say that he would not open the abdomen in every case of penetrating wound, neither was there any thing to say that he would. But he did believe that in the hands of the expert the cases should be selected, while in the hands of the general practitioner they should make section in all cases of penetrating wounds.

When ever there is a hole in the abdomen it should be followed up by the probe and scalpel, and if need be abdominal section performed. He would not stick the probe into the serous cavity, for the shock is something, and the hemorrhage is likely to be excessive. The doctor said he had been misunderstood as to the use of opium. He did not say that he gave it in peritonitis, neither did he say that he gave it to control peritonitis. The main idea advanced in the paper was absolute rest, and it was to secure this object that he gave the opium, as well as to relieve the pain. He had never seen a gut wound in which there was no pain.

On motion, the Society adjourned to meet at 8 P. M.

The Association was called to order at 8 P. M., by Dr. J. M. Mathews, of Louisville.

The society listened to the annual address of the President, Dr. I. N. Love:

ADDRESS OF THE
PRESIDENT,
DR. I. N. LOVE,
OF ST. LOUIS.

It is needless for me to attempt to express my appreciation of the honor you have conferred upon me in

electing me as your President.

To say that I am proud of having been selected to preside over an organization representative of the medical profession of this great valley—a domain which DeTocqueville half century ago grew enthusiastic in describing, and declared capable in its boundless resources of feeding and supporting an empire, and whose record and present condition to-day give complete justification to his most extravagant predictions, a section of country composed of the glorious States of the West and South, rapidly becoming the directing and controlling commercial, social, and political power of the continent—to essay the expression of my gratification and pride in the honor conferred would seem superfluous. I can only thank you.

In addressing you for a few moments I have concluded to present no scientific mat-

ter, preferring to leave that field entirely to you during this meeting, and promising at future meetings to do my share in that direction.

I will offer to you a few thoughts, random and disjointed though they be, not in an advisory, but a suggestive way only, upon some of the

PRESSING NEEDS
OF THE
PROFESSION.

We have great reason to be proud of our profession, the world over—proud of its achievements and accomplishments, the record it has made of energy, originality, intellectuality, scientific development, humanity, charity, and no time in its history has there been more to glory in than in the past fifty years, and no grander presentment made by any of its workers than here in our own America.

The names of the elder Gross, Flint, Marion Sims, John T. Hodgen, and McDowell will not be forgotten as long as human suffering exists in the world, and be it remembered, they were every one the product of this Mississippi Valley, and many of them from your own State of Kentucky.

However, in our pride in our craft, we should not lose sight of our weak points, and should take pains to fortify ourselves against them.

First upon the list of wants I shall mention that of more thorough and

SYSTEMATIC
ORGANIZATION
OF THE
PROFESSION.

Of all the so-called learned professions, ours is second to none in members, character, and influence, and all that is necessary to the securement of that which is for our best good is for us to be alive to our interests to the extent of marshalling our forces in the proper manner. In union there is strength, and the presentation of a united front on the part of a body of thinking, working, voting, studious men, eighty thousand strong—men who are the trusted advisers of every family in the land—

would make them invincible, and whatever they wished within the bounds of propriety would be accomplished.

The individuals composing this mass would be improved and polished by the rubbing together.

In these convocations all can bring information and exchange experiences, and science will be subserved and the good of humanity advanced.

Let the profession go on in the good work of crystalizing itself by organizing in every township, county, state, and section in the country, and once in one or two years, as may be thought best, send delegates from these various local societies to the American Medical Association—our National Medical Congress.

HIGHER MEDICAL EDUCATION.

The question of higher medical education is one that has been discussed these many years, and the discussion will probably be continued for years to come, but that it will eventually be solved favorably to the profession and the people there can be no doubt.

In the majority of States the laws require the exhibition of a diploma before granting the right to practice, but unfortunately are silent regarding the qualifications of the diploma-giving power.

Under existing conditions in many States a company may organize, composed of quack doctors, broken down clerical mountebanks, and wandering tramps, procure a charter and grind out doctors for the cross roads or the most aristocratic sections of the cities, large and small.

In Minnesota, Mississippi, Alabama, and a few other states, the legislatures have wisely, I think, enacted laws requiring all practitioners to go before a board of examiners and give evidence of the knowledge that they possess by passing a proper examination in all essential branches of medical science. Such laws are a credit to the state, a protection to the citizens, and are certainly advantageous to the properly edu-

cated and equipped physician, and are disastrous only to the "diploma mill" and the charlatan.

Remove from the medical diploma its power as a license to practice, and the "wild-cat colleges" which live for "revenue only" will cease to be.

Speaking of the medical diploma of today, the *Medical Standard* pointedly presents it thus:

"As enthroned in medical legislation, it is a fraud and a curse; it masquerades under false pretenses and knifes every attempt at higher education. It is time that competency itself, and not its purchased and mendacious alleged certificate, were accepted as the true basis for legislative honors. With this the test, the competition between colleges would be not which can produce the most graduating material at the least cost and the greatest profit and in the shortest time, but which will afford that thorough instruction and sound education which shall receive the approval of the law in the acceptance of their graduates. A school which can not live and prosper by this test has clearly no right to exist."

That we have too many medical colleges, good, bad, and indifferent, I think all will admit, and it is to be hoped that there may be a "boiling down" accomplished whereby the scum and the dregs may be removed.

At this time every city, great and small (and even many of the smaller towns), in the land has from one to a dozen medical colleges, many of them using every effort to inveigle into an already over-crowded profession raw material, fit or unfit, it matters not, so the list of matriculants and graduates be large.

To a very considerable degree the remedy lies in the hands of the body of the profession which is disconnected from, and which is the great feeder of medical colleges in that its individuals are the original preceptors of the students. This large class, forming the great majority of the profession, should severely discriminate in taking stu-

dents into their offices. They are the profession's protectors, and they should guard it against ignorance and moral obliquity.

They should receive as students only those who are likely to be a credit to them and an adornment to the profession, and see to it that they are properly entered in colleges that are properly conducted and catering to the better sentiment of the profession. In all candor I think the mania which afflicts the profession in all its ramifications should be abated—the mania for teaching medicine. In city and country alike the bent of the profession appears to be in the direction of multiplying its numbers, in spite of the fact that many already within its ranks are barely able to live.

In the old world a practitioner accepts a student or apprentice only after he has given the strongest evidence of his mental and moral fitness and general attainments, in addition to which the student obligates himself to pay a given and goodly sum each year for a term of five years, and that he will not, after he has been licensed, engage in practice within a distance of ten miles.

By this rule the student has to pay for that which he receives; the practitioner must needs give something tangible in return—knowledge and art which earns his bread—at the same time wisely protecting himself against the competition which he himself has nursed.

In the cities, however, this mania for teaching and multiplication of colleges carries with it a feature which, in the form of clinics and dispensaries in excess, has become a crying evil. I refer to the

ABUSE OF MEDICAL CHARITIES.

This is a subject which is agitating all the cities of the world, and in many of them public meetings have been held by the profession to discuss some means for remedying the wrong; in all it is of very serious import to the profession, and to the people—a double injury.

In many cities, clinics, hospitals, and dispensaries are established and being estab-

lished vieing with each other in the inducements offered to attract patients, in taking the bread from the mouths of the tyros in the profession who have been seduced into it by the allurements of an easy entrance, as well as many of the older members who find it difficult to keep the wolf from the door; at the same time banefully affecting the subjects of their indiscriminate charity by educating them to the point of being full-fledged paupers.

Relative to this I quote the following from that bright and sterling journal, the *Chicago Medical Standard*:

“To what is practically indiscriminate alms-giving, the profession has been and is grievously addicted. The merchant, beloved for his charities, would be laughed at as a fool were he to give away his goods to persons in the enjoyment of good salaries, yet the physician is doing this every day through his dispensary, hospital and church charities. As a result charity has become the first refuge of the charlatan. ‘The poor treated free’ is the motto upon the banner under which the quack marches to victory.

“The result of the indiscriminate ostentatious rivalry in charity, is that the upright, general practitioner, overworked to secure a bare livelihood, finds neither time nor strength for scientific research, as his labors are too exhaustively increased by the financial struggle for existence. Worn out in harness he dies, and the ‘good, charitable doctors’ chant over his remains that it was to be regretted that such an able, honorable physician had published so little, and was such a poor business man.

“At least one half the community are practically paupers as regards medical charities. The professional pharisaic pseudo-philanthropy has created this large class of morally defective beings. In the interest of the profession and society, it is time this were ended. Let every physician bestow in secret his private medical charity on the deserving poor. Such charity will ele-

vate them and elevate him, but every medical pseudo-philanthropist who acts as medical officer to any so-called medical charity, whether it be a church charity, a dispensary or hospital, or a college clinic, which, after rigid supervision does not turn from its doors all able to pay, be driven from the ranks of reputable medical men."

A number of years' connection with the various eleemosynary institutions of a large city has convinced me that possibly organized systems of charity are objectionable in that they discourage individual charity by removing the opportunity of its exhibition and encourage pauperism by being too indiscriminate and relieving the recipient of the feeling of personal obligation for favors received. The question may well be asked whether any other class of workers are actively engaged in efforts to increase their numbers by "giving away without money and without price" the secrets and knowledge of their calling, and at the same time educating their clientele in the direction of demanding and accepting service without compensation therefor.

Add to this the fact that sanitary science, preventive medicine, and all that the terms imply, are the direct result of the noble, generous, heroic work of the medical profession all the years gone by, and I think we are safe in concluding that the time is drawing near when it will be necessary to call a halt in these efforts to attract recruits at the same time diminish the proper compensation of the workers in the profession by reckless and misdirected benevolence.

Do not misunderstand me; I would not that the profession be less generous and self-sacrificing, but more just to itself. Let us ask regarding those whom we take into our ranks, Are they well equipped for the service? In their entirety are they men, manly men? If so, they will not want to sneak into the profession through a crack in the door and then go dodging through their professional lives for the reason that they are not able to present a clean bill of entry.

The man who accepts something for nothing as a rule loses his independence and manhood whether he be a patient, a medical student, or what not.

I have no more respect for a medical student who is not willing to give hard years of earnest work to the securement of a knowledge of his profession than I have for a man who fancies that he has been "called" to preach the gospel of "the Man of Sorrow who was acquainted with grief," and yet who, in the very beginning of his career, sinks his manhood by accepting an education paid for by the female members of some struggling congregation, who raise the money through "sewing bees" and the sale of fancy work and bric-a-brac, said money being thus diverted from worthy seamstresses who are honestly struggling to make a living and solve the problem of existence for themselves and dependents.

Both characters I have presented are a disgrace to the calling they have chosen.

This question of charity in our profession is an ever present one. Not a day passes but that we are called upon to visit those from whom the simple "God bless you" is all that we will ever receive. But that is a fee that indeed enriches us.

The work of a physician is of a character, if properly exercised, to make him a nobler and a better man each day he lives, full of sympathy for the suffering, words of cheer for the sorrowing, charity for the unfortunate and the sinning. A work which of necessity develops a man's sensibilities, finer feelings, which intensifies his emotional nature in one direction and curbs it in another. Let us not attempt to check this elevating and ennobling tendency. The doctor who can go from house to house and say to the patient, "Your money" (or your life I had almost said) "in advance, please," has a thoroughly dollars-and-cents idea of his calling to say the least, and is not a member of whom we should feel proud, even though he become prominent as a very rich man, but he is a benefit to the profession in that he educates

his patients in the direction of paying their bills. His greatest damage is to himself.

It is the too numerous organized charities against which I have been inveighing.

Let us not cease our individual charities. Let us not attempt to close our hearts against our generous, better impulses, but let us be carefully judicious in our distribution of gratuitous work, and guard ourselves against the formation of careless business habits in connection with those who are able to pay for service received. Here comes in the advantage to the profession if its workers have struggled long and hard for their knowledge and privilege to practice; they are much more likely to feel that they are giving good value in rendering service and ready to demand proper pay from those able to give it.

May we not hope that sooner or later the millennium of the profession will have arrived when there will be no branches, no sects, no dogmas, but all will be satisfied to train under the banner of the grand old profession, which is broad enough and generous enough to permit its devotees to select any remedy they please, in any dose they please, according to any theory they please, and only commands them to serve humanity and work generously for the good of the profession under no other name than that of "Physician." I am strongly of the opinion that the decline of homeopathy and other "isms" in the profession which is now well under way is largely due to the dignified ignoring of them on the part of the regular profession during these latter years.

Evidences of their diminishment and eventual absorption by the parent body are upon all sides, among which may be mentioned the renouncement and dencuncement on the part of their leading medical journals and practitioners of their infinitesimal theories, and the relinquishment of labels or terms suggestive of creed or dogma.

In the city of St. Louis at this time there can hardly be found a half dozen practitioners presenting tangible evidence of any pe-

culiar tenet or article of faith. I cite the following from the *New York Medical Times*, the leading and best so-called homeopathic medical journal in America, viz:

"In the nature of things there can be but one system of medicine recognized by science. Either homeopathy must absorb the old school, or be absorbed by it." (January, 1887, page 308.)

"The *doctor of the future* will surely recognize no sect in medicine." (*Ibid.*)

"If the public only knew how those so-called 'high dilutions' are made, we doubt whether they would be tolerated for a moment. In most cases it would only be necessary to describe this process to stamp out any tendency to a belief in such *transcendation*." (*Italics mine.*) (April, 1886, page 83.)

"Our old school brethren have this advantage over our new school friends, that no matter what their practice, in name at least, they are non-sectarian, and they can gradually, as they are doing now, absorb the truths of all schools without eating any very large amount of crow." (June, 1886, page 83.)

The quotations and the facts previously referred to clearly indicate the tendencies of the day.

Appropos to the points here made, I remember a remark offered nearly twenty years ago by the late Dr. John T. Hodgen in response to an extravagant denunciation of homeopathy to this effect:

"Life is too short to indulge in the arraignment and condemnation of all those who do not happen to look at things as we do. Hahneman's ideas were mostly absurd, it is true, from the standpoint of logic and common sense, but that they have accomplished much good in having rendered our medication less heroic, and in having taught us to rely more upon nature will be admitted. Had these notions been received silently or permitted to rest upon their merits, and the exponents of them not antagonized and persecuted, they would have died 'aborning.'"

In marked contrast to this calm and thoughtful course of my preceptor was that of one of my earliest teachers in medicine, who used to occupy a considerable part of his lecture hour in hurling anathema and billingsgate at the heads of his erring homeopathic brethren.

Let us not waste our time and talents in showing up the weaknesses of our fellows; let us be as charitably and kindly disposed toward our weary and worn co-workers as we are toward the idiosyncrasies of our sick and suffering patients. Of all men doctors should be most lenient toward errors and blunders, for none know better than they how thoroughly matter has power over the mind which it environs. However, let us no longer carelessly accept the title of "allopaths" given us by our opponents, but announce, if called upon, that we are "physicians," and that our title permits us to choose from the entire world of medicine any means or remedy that will help our patients. That we will weigh in the balance all that is presented to us, and hold fast to that which is good.

Let us then, one and all, determine to be considerate and tolerant of the rights of others, grant to every man the same privilege that we ask for ourselves, that of having an opinion and acting in accordance with it.

Let us remember that all the quacks are not in the irregular ranks of the profession, and whether they be or not, let us deal gently and kindly with them and win them over into the straight and narrow path of professional rectitude.

In this connection, permit me again to quote from that fair, honest, and liberal exponent of homeopathy, the *New York Medical Times* (April, 1886, page 18), as follows:

"There are so many facts in science which appeal to the intelligence of every reasoning man. So many avenues of thought open, and are constantly opening as the darkness which hid them from sight rolls away before

the light of science, that there must be room for all to work without jealousy or discord, each bringing his quota of knowledge to be tried in the furnace of practical experience and each recognizing the other as a fellow-worker in the ranks of a great profession. We can not check the progress of truth or force its reception.

"The mind will some day, as light gradually dawns upon it, be wide open to receive it and incorporate it with its own life and work. Intolerance, exclusiveness, or angry discussion will neither help or retard.

"All that we can do is to live earnest, conscientious, and honest lives, ever striving to do good and intelligent work in that great field of labor where there is room for all."

Let not the criticisms I have expressed impress you that I for one moment think the profession is, on the whole, retrograding—decidedly the reverse. The progress is onward and upward, and I never meet with aggregated numbers of my co-workers but that I feel greater pride than ever that I have been permitted to enter the ranks. A grander, nobler, more self-sacrificing body of men never lived, and all that is needed for them to thoroughly love one another is for them to meet together often and know each other better.

Gentlemen, as the days come and go and the years pass I feel that doctors are fortunate in their calling. Above the strife, the slavery of their work, the insufficient remuneration, the sometimes cold and cruel thanklessness of their patrons there stands out the fact that they are elevated, refined, and nobilitated by their duties and association with the sad and unfortunate, and if they be true to themselves it follows as the night follows the day, they can not be false to any man.

SECOND DAY.

The Association was called to order at 9 o'clock by President Love.

The report of the Committee on Constitution was read by Dr. Wm. Porter, of St. Louis.

On motion, the report was received, and the constitution and by-laws adopted.

Dr. Dudley S. Reynolds moved that the Secretary be empowered to print the constitution and by-laws and distribute them to all the members. Carried.

The President asked for information concerning the method of appointing the nominating committee.

Dr. Owen, of Evansville, Ind., said that the practice of the Association was to have the President appoint the committee.

Dr. Porter said that that method had prevailed at certain times, while at other times it had been selected by the members from each state represented.

Dr. Reynolds said that the remarks of the members showed clearly that there was no precedent that the Chair could follow.

On motion of Dr. Arch Dixon, of Henderson, Ky., the Chair was directed to appoint the committee.

Telegrams of regret at inability to be present were read from Dr. Pancoast, of Philadelphia, John B. Hamilton, of Washington, J. J. Chisolm, of Baltimore, and others.

The first scientific work of the morning was the paper of Dr. Preston B. Scott, of Louisville, Ky., on "Chloroform in Obstetrical Practice." He took the position more of an advocate of the use of chloroform in obstetrical practice than as one who should critically discuss its merits. From a very extensive use of the drug in his practice he had come to have a very favorable opinion of its usefulness. He thought it might be possible that he was so much in favor of its use that he might be somewhat blinded as to its danger. Among the objections to its use was that it retarded labor. He thought this objection greatly over-rated. There are some cases, it is true, where the parts are relaxed, and it may in a measure retard labor, but the objection holds good in but few cases. The doctor never uses ergot until after the expulsion of the fetus and placenta. He uses quinine. It stimulates by its action on the vaso-motor nervous sys-

tem the muscular fibers of the uterus. He thinks in a majority of cases there is too much delay in beginning the administration of chloroform. It should be commenced early. One of its effects is a relaxing of the perineum. It will have the same effect on the cervix if it is commenced early. Its best use is in the early stage of dilatation. He uses very small doses, say one and a half to two ounces, and does not carry its effects to deep narcotization. Another danger which has been overrated is that of hemorrhage. He thought that in many instances the hemorrhage was ascribed to the use of chloroform when it was, in reality, due to some other cause. Another objection was to its use in cases where the heart was more or less involved. There are certain forms of heart disease where it is contra-indicated. There might be some danger in using it in cases of fatty or dilated heart, but in cases where there is compensatory hypertrophy it may be used. He believed that in many cases of heart disease it might be employed without any harm to the patient.

Dr. A. M. Owen, of Evansville, Ind., in opening the discussion, said that he used it in all cases where it seemed necessary. He gave it in all forms of heart disease.

Dr. William Bailey, of Louisville, could indorse the views of Dr. Scott. He considered that the Doctor had been too indefinite in his description of cases of heart trouble where it was safe to use the drug. He considered that there were certain forms of disease in which its use was positively contra-indicated, such, for example, as fatty heart. A person would be reprehensible if it was used in such a case.

Dr. Owen asked him if he had not repeatedly told his patients suffering from fatty heart to avoid excessive strain, and this is equally necessary in labor as in any other condition.

Dr. Bailey said that there had been deaths from the use of chloroform in such cases, and he would not dare give it to a patient whom he knew to be suffering from fatty

heart. He had used chloroform during the last thirty years. Labor was the only condition in which he gave it without any hesitation whatever. The horizontal position of the patient, and unrestricted breathing removed the greatest danger in its administration. He thought that in a small percentage of cases it might retard labor, but it retards less often than is popularly supposed. He believed that there was much doubt as to its increasing the liability to hemorrhage. In those cases where hemorrhage is to be expected he uses ergot after the expulsion of the fetus.

Dr. W. H. Wathen, of Louisville, thought that in a small percentage of cases it did retard labor, but it was exceptional. It sometimes expedites labor very much. In cases of irritability of the woman and of the womb chloroform relieves the irritability and advances labor. He uses it in all cases of labor where its use is not contra-indicated without any hesitation whatever as to a fatal result. He had never seen an alarming symptom from its use in labor.

Dr. J. A. Larrabee, of Louisville, said that his experience dated after the chloroform business had been gotten through with. He could indorse the sentiments of the speakers. He thought that the unqualified statement that it was to be commenced at the beginning and kept up through the entire duration of labor might not apply to all cases of delay in the first stages. When patients learned the advantage of the drug there was a great demand for it, and it had to be given for long periods. In contraction of the circular fibers he used a small dose of morphia before administering the chloroform. He believed that in some cases, where the drug was pushed to full narcotization, the child showed some symptoms of cyanosis, and on this account he considered its very free use objectionable. He gives it interruptedly during the pains until full anesthesia is attained. He does not use it until the uterus is fully dilated and labor has commenced. He believed that the ground

taken by Dr. Bailey as to its use in case of heart disease was a good basis from which to work.

Dr. R. C. Early, of Ridgway, Penn., had used it in a very large number of cases and had never seen a bad effect from its use.

Dr. I. N. Love said that he had never seen a bad result from its use. It should rarely be given to the point of complete narcotization, simply obtund sensibility. If the intellect of the patient is kept clear she can help herself much better. He thought it very doubtful if there were cases of heart trouble in which it was contra-indicated. One of the most important things was to keep the patient free from excitement. This could be done by the use of chloroform. Many of the cases of death from the use of this agent he thought due to fright. He considered the administration of morphia before beginning the chloroform of great advantage. He considered the use of whisky of more importance than either morphia or chloroform. He considered the danger from hemorrhage due more to exhaustion than to the use of chloroform. He had never seen a case of post-partum hemorrhage follow its use. He begins its administration late in labor.

Dr. W. C. Wile said that he thought whisky increased the liability to hemorrhage. He strongly advised against the use of chloroform in fatty heart. He described Chas. Sayre's inhaler. He had never seen a bad result from the use of chloroform in obstetrics except that in rare cases there had been some asphyxia of the child, but he had never known of the loss of a child from this cause.

Dr. J. M. Mathews had had no obstetrical experience for a number of years, but he used whisky in cases of heart disease or where an anesthetic is not desirable. He did not believe that its use increased the liability to hemorrhage.

Dr. Scott, in closing the discussion, said that he had used whisky in certain cases with much benefit. He considered the administration of morphia and atropia of great

benefit in certain hyperæsthetic cases previous to the exhibition of chloroform.

A NEW METHOD
OF SUTURING
THE BOWEL.

Dr. H. H. Mudd,
of St. Louis, described
a new method of suturing the bowel.

Experimental research and clinical observation demonstrate the rapidity and the uniformity with which intestinal wounds are repaired when properly united. The manner of closing a wound of the intestine is not materially different from that used in uniting the severed ends after an excision of a section of the bowel. Let us consider then the excision of a segment for gangrene, the result of strangulation. The circulation is already impaired and the parts easily become congested, hence the prime importance of having the parts perfectly free from constriction, and accessible for easy handling and unrestricted work. The technique of the operation is important, for through the perfection of its details will be insured uniformity and perfection of approximation with the least possible damage to the parts involved. Rapidity and precision of action are necessary. The V-shaped incision made to remove a part of the mesentery seems to me irrational and unnecessary, and if sutured along the cut edge it requires too much time. A silk ligature carried through the mesentery about one centimetre from the intestine, and so placed as to include at least one half centimetre more mesentery at each end than is attached to the section of the intestine to be removed, is sufficient to control hemorrhage and to approximate the tissues of the mesentery so as to leave a small stump. If more than four inches of the bowel is to be removed the mesentery can be ligated in sections. The ligature thus placed near the bowel includes only the smaller vessels and does not disturb nutrition. After the ligature is tightened the mesentery is severed from the intestine by using the scissors, and a portion of the intestine beyond the line at which excision is to be made is free. The ligature of the

mesentery will help to hold the divided ends together. The difficulty in controlling perfectly the cut edge of the peritoneum with the mucous membrane everted and overlapping has induced me to use in the last three cases the following method: The portion of the intestine to be excised is emptied of its contents by pressure, and the bowel clamped with two pairs of Pæon forceps, applied just at the line of the intended incision. The point of the forceps is at the mesenteric border and the heel at the free margin. A sewing needle, number five or seven, armed with fine silk, is now used to place a row of six or eight Lembert sutures through each end of the intestine outside the forceps. The sutures are left untied and long, and are all put into position before dividing the intestine. The portions of the bowel outside of the line of the sutures is then emptied by pressure and the bowel held in the fingers of an assistant. The middle portion of the untied sutures are now lifted from contact with the gut, and the bowel excised by cutting with the scissors close to that margin of the forceps which is next the sutures. The free ends, with sutures already placed, are then quickly approximated by tying the Lembert suture. The union is made more secure by placing a continued catgut suture over the line of Lembert sutures. An ordinary sewing needle is used for this purpose. This method of dealing with the mesentery is entirely practicable except where there is a large deposit of fat and it is much thickened. It prevents hemorrhage, leaves a small, compact stump, does not require sutures, and helps to hold in approximation the united ends of the intestines. The Pæon forcep makes a good clamp, and the tissue included in its grasp is removed. The line of sutures is easily placed, and a uniform margin is inverted. The Lembert sutures are not to be carried through the mucous membrane. The intestine is not opened until after the sutures are placed, and the divided ends are then ready to be drawn to-

gether. Fœcal extravasation is thus avoided, and sepsis is prevented. The manipulation of the intestine is reduced to a minimum, and the operation is made easy and rapid. Time saved in such an operation adds to the safety and is of first importance, provided accuracy and perfection are not sacrificed. The line of Lembert sutures can be placed as close as possible to the forceps and yet leave room for dividing the intestinal wall between the forceps and the sutures.

The advantages of the common cambric needle are, that it has no cutting surface, and on pushing into the walls of the gut without forceps, but with the fingers, when the point passes through the muscular wall and comes in contact with the basement membrane of the mucosa the sense of resistance is such that the surgeon need never puncture the mucous membrane at all. This prevents the danger of circumscribed enteritis at the point of introduction of the Lembert sutures. No sutures are needed for the mucous lining of the gut.

Dr. A. C. Bernays, of St. Louis, asked whether more than one suture was used about the mesentery, also whether the bowel was excised before or after the introduction of the sutures. Dr. Mudd replied that one suture for an incision of four inches was sufficient. The bowel could be excised either before or after the placing of the sutures. If it is cut before the sutures are placed the portion which is held by the forceps is excised after the sutures are placed.

Dr. Bernays said that the method was entirely new, and it would be impossible to pass judgment upon it. Essentially it was rational and practical. He feared the mucous membrane would not heal as well. The advantage from the use of the clamp was very great, allowing the correct placing of the sutures.

Dr. Geo. J. Cook, of Indianapolis, Ind., read a paper on "Chronic Constipation," defining it as that condition in which the contents remain too long in the large intes-

tine. He divides it into obstructive and atonic constipation. Among the causes of obstructive constipation he classes first irritability of the sphincter ani muscle. This is one of the most frequent causes of this form of the disorder. Another frequent cause of disorder is contraction of the upper end of the rectum, usually resulting from some inflammation at that point. In the atonic form the most frequent cause of the disorder is the willful neglect of the natural laws in regard to the evacuation of the large intestines. Chronic constipation is especially prevalent among girls under twenty. A large number of the uterine disorders so prevalent among this class can be distinctly traced to the disorder of the bowel. In the treatment of this class of cases purgatives should not be used. The best results are obtained from the use of large injections of hot water and the free use of massage along the course of the colon. Strychnia in appropriate doses is of great benefit in improving the muscular tone of the bowel.

Dr. J. M. Mathews, in opening the discussion, said that the subject was one of the most important in the whole range of medical practice. Every one met with cases, and this was specially true that it was more frequent in young girls who are allowed to go along without any word of knowledge as to its effects. Every gynecologist witnessed the bad results of this habit. He had seen in the last few months five cases of impacted feces in young girls. He believes that impacted feces as a rule does not occur in the rectum. It usually occurs at or above the sigmoid flexure. In many cases the rectum is entirely empty. The sphincter plays an important part in the production of constipation. It is not necessary that this should be evidenced by pain, or that the patient complain in the least. It is not necessary that the least discomfort arise about the rectum. There is frequently an involuntary contraction of the sphincter that is only revealed upon a physical examination. In

this condition the only treatment is divulsion of the sphincter. He does not believe that hemorrhoids produce constipation, but their presence may give rise to great irritation of the sphincter, and the divulsion cures the constipation and the hemorrhoids.

Dr. Arch Dixon agreed with Dr. Mathews. He had seen many cases of impacted feces occurring in the sigmoid flexure. One case had been treated for six weeks and the impaction had been present sufficiently long to produce an abscess which extended down into the pelvic cavity. The impaction was relieved and the child recovered.

Dr. A. M. Owen thought that nine times out of ten the impaction was not in the rectum. The importance of divulsion, he thought, was not well understood. He used divulsion in every case of hemorrhoids.

Dr. Cook, in closing, said that the hand was the proper instrument for divulsion. Impaction was most frequent in the sigmoid flexure, transverse colon, and cecum, in the order named. He had no doubt that hemorrhoids were one cause in the production of constipation, but you could not cure the hemorrhoids without first curing the constipation. In cases of impaction of the large intestine he used morphia to relax the contraction and then used the hot water. He relied most on the pure hot water. In practicing divulsion the distension should not be sufficient to rupture the sphincter. He uses four fingers in divulsing.

On motion the Society adjourned to meet at 2 o'clock.

The Association was called to order at 2 P. M.

LAPARATOMY IN

PUERPERAL FEVER.

Dr. L. S. McMurry, of Danville, Ky., presented a specimen of suppurating Fallopian tube and ovary, removed by abdominal section in a case of puerperal peritonitis. The greatest point of interest in the case centered in the relations of the diseased organs to the puerperal

state. The patient was a white woman, 23 years of age, confined in her second labor on February 3d, last. Three days after confinement she had a chill, followed by high temperature, rapid pulse, tender and tympanitic abdomen, an array of symptoms characteristic of puerperal fever. After treating her in the usual manner without improvement, high temperature, rapid pulse, hectic fever and emaciation persisting, an examination was made *per vaginam*. No recent laceration could be found, but a large, boggy mass, tortuous, adherent, and very tender, was distinctly outlined by the finger to the left of the uterus. Abdominal section was performed, and the specimen shows the seat and character of the disease. The left tube is almost as large as the uterus and was filled with pus; the ovary will be seen to be disintegrated, and was filled with pus. Both tube and ovary were imbedded in a cheesy mass, and adherent to the sigmoid flexure of the colon. While breaking the adhesions pus welled up around the mass. The right tube and ovary were found healthy and were not removed. After free irrigation of the peritoneal cavity, and securing all bleeding points, a drainage tube was inserted and the incision closed. Within twenty-four hours the temperature fell to normal, and the pulse to 80, and remained so until convalescence was completed, excepting for a short time when drainage was obstructed. Previous to the operation the temperature was ranging above 103° F., and the pulse about 130 per minute; abdominal section, removal of the diseased mass, irrigation and drainage, transformed the symptoms and rescued the patient from a condition of impending death.

Clinical observation has shown that pyosalpinx, even of gonorrheal origin, may effect one tube only, and that the other, being healthy, an ovule may pass and be fertilized. In the case under consideration the disease antedated labor and peritonitis was awakened by the process of parturition. There is no doubt that a considerable pro-

portion of the cases of so-called puerperal fever are in reality cases of puerperal pyosalpinx. The practical lesson taught by this case and the specimen before us is that in every case of puerperal peritonitis a thorough exploration of the pelvis should be made, and when such a condition as this case illustrates is found, the abdomen should be opened and the diseased parts treated like any other suppurating and infecting mass, viz., by excision, irrigation, and drainage. He called attention to the fact that the specimen presented was one of gonorrheal origin, and illustrates the grave and far-reaching results of that infection when introduced into the female genital tract, a fact not sufficiently recognized by the majority of practitioners. The speaker expressed his obligations to his friend, Dr. J. M. Baldy, of Philadelphia, for the instructive specimen presented, by whose courtesy he had visited the patient and assisted in the operation which led to her recovery.

Dr. A. C. Bernays presented a pathological specimen from a case of pylorotomy with a rare complication.

Mrs. H., aged fifty-two, good family history, mother of twelve children, was attacked with symptoms of stricture of the pylorus about six months ago. Since then she had rapidly lost flesh and at the time of examination had a tumor two inches to the right of the median line midway between the ensiform process and the umbilicus. The tumor was freely movable in all directions, the size of a small egg, and was very hard. The most distressing symptoms, the inability to eat any thing solid or even semi-fluid without causing excruciating pain, accompanied by dilatation of the stomach. Diagnosis was cancer of the pylorus causing very narrow stricture. Pylorotomy was performed July 7. Incision was made in the linea alba four inches long. Stomach and duodenum were drawn out of the wound. The stomach was found full of gas and the head of the pancreas follows the tumor. There was one suspicious omen-

tal gland, and the tumor was adherent firmly to the pancreas to the extent of over one square inch. Clamps were used to shut off the stomach and the duodenum from the part to be extirpated. The duodenum was found to be involved by the scirrhus mass down almost to the lower third, this bowel being much contracted and shortened by the scirrhus. The stomach was cut off with scissors in a straight line. The isolation of the tumor was easily accomplished down to the adhesions with the pancreas. These had to be cut with knife and scissors, in fact a small hardened portion of the pancreas was also removed. During this proceeding the ductus choledochus and the pancreatic duct were torn off. These ducts were immediately recognized and caught up with the forceps. They were carefully stitched into the line of union on the posterior surface between the stomach and the duodenum in such a manner that their contents must be discharged into the bowel. The stomach was closed in the usual manner upon itself by the Lembert suture over a suture of the mucosa to such an extent as to leave an opening large enough to fit the duodenum which was attached by over forty sutures of fine silk to the stomach. A drainage tube passing under the line of suture around the gut was left in the abdomen, both ends being drawn out through the abdominal incision. The abdominal wound was closed after a careful toilet. The operation lasted two and one half hours. The patient rallied nicely; vomited once after being placed in bed. At 10 o'clock in the evening collapse began and the patient died eighteen hours after the operation from exhaustion. Post-mortem: No hemorrhage. Stomach held water. Bile discharged into the bowel. Sutures covered with a thick layer of gelatinous coagulated lymph.

Dr. Bernays also reported a case of colporhysterectomy in which the fetus was found to have a tail-like projection and homologous arches, the same as are found in fishes. He considered the case one of great inter-

est as having a bearing on the evolution theory.

Dr. Y. H. Bond read a very elaborate paper on the subject, "Must the Ovaries go?" The Doctor took the position that Battey's operation, although it had been abused, was of great benefit, and one that could not in any way be controverted. While Dr. Battey in all probability had no idea of the importance which his operation would assume, yet that operation had opened up the whole field of pelvic pathology as we understand it at the present time. The Doctor related several cases coming under the care of Dr. Pope, in which the abdomen was opened, adhesions were broken up, but the ovaries or tubes were not removed. Thus far the clinical experience covers only three cases, and the time since the operation has been too short to allow of definite conclusions being drawn. He considered that Emmet's position concerning pelvic cellulitis and its extension so as to involve the tubes and ovaries was an untenable one in the light of recent pathology.

A paper by Dr. J. B. Green, of Mishawaka, Ind., on "Gonorrheal Peritonitis" was read. The Doctor believes that gonorrhea in the male is never cured, and that the infection may and frequently does travel so as to involve the peritoneum. He relates three cases of the disorder in which laparotomy was performed with good results. He strongly advises laparotomy in all cases of gonorrheal peritonitis.

In opening the discussion, Dr. Wathen, of Louisville, said that he considered the case of Dr. McMurtry another evidence of the remarkable advance in abdominal surgery during the last few years. The case was a most unfavorable one for operation. Every one would remember that Dr. Battey removed the ovaries to bring about the cessation of the menstrual function, and while his theory was faulty his conclusions were correct. It was found after careful examination that the ovaries were not in a physiological condition. They were in a patho-

logical condition. The operation had been abused, but in spite of that fact it was nevertheless one of the most remarkable advances in modern surgery and should not be condemned. It is recognized as a legitimate operation under proper conditions. In regard to abdominal section for the purpose of separating the adhesions of a retroverted uterus, notwithstanding the success of Dr. Pope, there are few cases that require such heroic treatment. In the Doctor's opinion there were many cases of salpingitis directly the result of gonorrheal infection, but there are other causes as well, and there were many cases of pelvic cellular or peritoneal inflammations that have no specific origin either gonorrheal or septic.

Dr. W. C. Wile, of Philadelphia, considered the case of Dr. McMurtry of unusual interest, inasmuch as the operation was performed under peculiar circumstances, such as puerperal fever. The result was certainly very gratifying. As regards Battey's operation, he had no doubt that some enthusiasts had gone too far, and that many ovaries were removed without adequate cause. Yet the beneficial results which follow the operation in many cases, and the few failures, warrant the operation. The number of women who have been relieved by this operation are legion.

Dr. A. Dunlap, of Springfield, Ohio, was fearful that the abdominal cavity had become so common that things are done which are dangerous. He never opens the abdominal cavity unless a satisfactory diagnosis can be made. He would not operate in a case like that described by Dr. Bernays. Removal of the ovaries and tubes in inflamed conditions he was certain was a justifiable operation and one that has done much good. In cases where there is disorder in the abdominal cavity, and that disorder can be removed, he believes in operating.

Dr. A. W. Johnstone thought that the theory that a diagnosis must always be made before the abdomen was opened might be

faulty. He believed that whenever a case was doubtful from some obscure cause, an exploratory incision should always be made. Regarding the paper of Dr. Bond, his experience had been that if the ovaries and tubes were not removed it would be regretted. He had tried the same method that Dr. Pope had suggested. The time that had elapsed since Dr. Pope's operations was entirely too short to allow of correct estimates as to its desirability. Lawson Tait had operated for pyosalpinx on one side, and in the course of five or six years he had to operate on the opposite side. In all cases where the ovary and tubes should be removed it is safe and proper to remove them. It is impossible to tell by the eye whether the ovaries are healthy or not.

He related the case of a woman operated on by Tait in which one side there were no ovary or tube. On the opposite side the ovary and tube had been removed but the menses continued. Finally the uterus was removed and the menstrual function ceased.

Dr. G. W. McCaskey, of Fort Wayne, Ind., read a paper on "A New Method of Intra-pulmonary Medication." The Doctor described an apparatus which he had constructed to facilitate the introduction of vapors at a high temperature into the lungs. He believes the method much preferable to the ordinary atomizers and spray apparatuses in general use.

The Association adjourned to meet at 9 o'clock A. M., Friday.

FRIDAY MORNING

SESSION.

Love in the chair.

After announcements by the Chairman of the Committee of Arrangements, was moved and carried that special vote of thanks be given to Colonel C. P. Atmore for kindness in securing railroad facilities for delegates and members, and to Hon. J. L. Frazee for his kindness in looking after the welfare of his guests.

The Association was called to order at 9 o'clock, President

Dr. Dan. A. Thompson, of Indianapolis, Ind., read a paper on "Acute Catarrhal and Suppurative Otitis Media." The author considered the exanthemata the most frequent cause of the disease in childhood, while cold is the most frequent with the adult. In the treatment of this disorder the antiphlogistic method is the best. To relieve the pain leeches are of great benefit. Hot fomentation and mild injections of morphia and—atropia in all cases—hot are advised. The paper was discussed by Dr. M. F. Coomes and Dr. J. M. Ray, of Louisville, Ky.

Dr. Lewis Hall Sayre, of New York, made remarks concerning the nature and treatment of "Club-foot." He considered that properly speaking cases of club-foot belonged to the general practitioner. The best time for the treatment of this condition was immediately after birth. The disorder is generally congenital, and if taken at once the foot can with very little trouble be brought into a normal position, or as near that as may be without obstructing the circulation. It is best kept in its position by strips of adhesive plaster. Such cases will recover without any operative interference. Dr. Sayre was tendered a vote of thanks and made an honorary member of the Society.

REPORT OF THE NOMINATING COMMITTEE.

Dr. A. Dixon presented the following report of the nominating committee:

The Committee on Nominations organized by electing Dr. Arch Dixon chairman. They would present the following report:

For President—Dudley S. Reynolds.

Your committee would respectfully announce that notwithstanding the personal protestations of Dr. Reynolds, they have unanimously made this choice, believing the honor to be worthily conferred.

Vice-Presidents—A. Dunlap, Ohio; Y. H. Bond, Missouri; A. R. Jenkins, Kentucky; H. C. Fairbrother, Illinois; Dan. A. Thompson, Indiana.

Your committee departed from its usual course in naming one of its member for the Vice-Presidency, but believe the Association will sanction its choice.

Permanent Secretary—J. Lucius Gray, Chicago.

Treasurer—A. H. Ohmann-Dumesnil, St. Louis, Mo.

Chairman of the Committee of Arrangements—I. N. Love, St. Louis.

Next place of meeting, St. Louis, the second Tuesday in September, 1888.

Arch Dixon, chairman, A. Dunlap, Wm. Porter, A. M. Owens, J. Lucius Gray.

After the reading of the report Dr. Reynolds arose and said: "I am sure the action of your Nominating Committee is ill advised. I came here with the fixed determination to exert my best efforts to secure the election of my friend and brother, Professor Joseph M. Mathews, to the Presidency of this Association. I addressed a brief note to the committee requesting the nomination of Dr. Mathews. When I was informed my own name had been mentioned I firmly declined the honor, and now most respectfully decline the nomination. I am unwilling to accept the office, and I now present the name of one who is every way better qualified to serve you than myself. I do this in the interests of our Association, and know that the objects of the committee will be more fully accomplished with Dr. Mathews in the Presidential office."

Dr. Mathews declined to accept Dr. Reynold's proposition, and thought inasmuch as the action of the committee had been unanimous, the nominee had no right to decline the office. It was the wisest choice that could have been made, and he would not now consent to have his own or any other name substituted for the gentleman named by the committee. He therefore moved that the report of the Nominating Committee be adopted. The motion was unanimously carried.

Dr. Reynolds having been called out of the hall, Dr. Mathews was appointed a committee

to bring the President-elect before the convention. Dr. Reynolds, on coming in, thanked the Association for the honor conferred upon him, and regretted the necessity of being obliged to accept the office. He said that his best endeavors should be used to further the interests of the Association in a faithful discharge of the duties of the high place to which he had been so flatteringly called.

Dr. C. R. Early, of Pennsylvania, made a few complimentary remarks concerning the work of the Association. On motion he and Dr. Wm. C. Wile were made honorary members.

A paper by Dr. J. McF. Gaston, of Atlanta, Ga., on an "Obscure Case of Stone in the Bladder," was read, after which papers on "Transverse Fracture of the Patella," by J. Young Brown, of Henderson, Ky.; "The Age of Madness," by T. J. Hutton, were communicated to the Association.

The following papers were read by title:

Modern Treatment of Phthisis—Wm. Porter, M. D., of St. Louis.

Practical Points in the Diagnosis and Treatment of Strangulated Hernia—A. C. Bernays, M. D., St. Louis.

Prostatorrhoea—Henry Orendorf, M. D., Louisville.

Epileptiform Hysteria—Wm. C. Wile, M. D., Philadelphia.

Report on Rapid Dilatation of the Cervix—W. H. Wathen, M. D., Louisville.

Extra-Uterine Pregnancy—Arch Dixon, M. D., Henderson, Ky.

Some Syphilitic Affections of the Rectum—J. M. Mathews, M. D., Louisville.

Wounds of the Abdomen—A. W. Johnson, M. D., Danville, Ky.

Nerve Stretching—J. G. Carpenter, M. D., Stanford, Ky.

Clinical Report on Purulent Conjunctivitis—John Y. Oldham, M. D., Louisville.

Hypertrichosis Due to General Disease of the Nervous System—A. H. Ohmann-Dumesnil, M. D., St. Louis.

Dr. Love, on retiring from the chair, made some suitable remarks concerning the Association and its future, after which the Society adjourned to meet in St. Louis in September, 1888.

PROGRESS

A MEDICAL MAGAZINE. ISSUED MONTHLY
DUDLEY S. REYNOLDS, A. M., M. D., EDITOR.
D. W. RAYMOND, BUSINESS MANAGER.

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WILE, THE
BENEDICT.

On the first of September, at New Haven, Connecticut, Dr.

William C. Wile, of Philadelphia, is to be married to Miss Hattie Adele Loomis. The arrangement is to have the wedding at 7 P. M., at the First Methodist Church, after which a reception is to be held at the elegant home of the bride, and at midnight a sound steamer will depart with the bridal party for Washington City. Dr. L. S. McMurtry, of Danville, Ky., is to give the groom away publicly, at the wedding ceremony. The editor of PROGRESS is to have the pleasure of giving the groom away privately at the home of the bride.

THE PRESS
BANQUET.

The Association of American Medical Editors tenders a banquet on the evening of September 5th to the editorial fraternity from abroad. It is to be an elegant affair, and is designed to bring into closer relations the medical ink-slingers of the universe. It is, in fact, to be a truly Benedictine affair, and the results are so portentous that we forbear even an attempt at conjecture. The editor of PROGRESS is permitted, by virtue of his membership in the Committee of Arrangements, to invite ten intimate friends, who must be really good fellows. The right parties will,

therefore, take notice and communicate with us at once, as the time for extending these invitations will expire on the 25th instant.

MICROSCOPIC
SLIDES.

Dr. Jas. E. Reeves, of No. 2525 Chapline Street, Wheeling, W.

Va., who is an expert in microscopical work, announces for sale some choice slides containing the baccillus typhoideus in tissue, spleen, potato, and gelatine cultures, at one dollar per slide. He offers the bacillus tuberculosis in lung tissue, in lupus tissue, and in sputum, besides many other choice specimens. Dr. Reeves will make mounts to order from material furnished at one dollar per slide. He is indeed an expert in this line, and should be encouraged by a liberal patronage.

ED. von DONHOFF,
M. D.

One single instance of the extraordinary effects of this remark-

ably torrid Summer may be mentioned: "Married, at Pittsburgh, Pennsylvania, on the 26th of July, at the residence of the bride's parents, by the Rev. George Goeltz, Miss Eveline Pilezonka, to Edward von Donhoff, M. D., of Louisville." This information was conveyed to PROGRESS in a note, concluding thus: "You see I have become a Benedict, and I hope you are glad of it." Dr. von Donhoff is a brilliant young surgeon, and, like many others, has battled against many adverse circumstances. The new cause he has set out to champion evidences a notable degree of success in life, and we all may say, yes, dear doctor, we are glad of it, and wish you much happiness and prosperity.

NINTH INTER-
NATIONAL
MEDICAL
CONGRESS.

The great International Medical Congress, which has been holding biennial sessions for eighteen

years, will, on the 5th of September prox-

imo, assemble at Washington City. It is indeed to be a great Congress. There are to be more than one thousand original essays, many of them embodying experimental research of vital importance to humanity. These, of course, are to be distributed throughout the sixteen different sections of the Congress. These sections embrace all the practical divisions known as specialties in medicine and surgery. More than one half of all this work to be done in the special sections of the Congress is, according to the programme, to be done by the representative men of foreign countries. Of the eighty thousand regular physicians in the United States, surely ten thousand ought to contribute something to the Congress, and no doubt they will. Intelligent discussion of the essays read is one of the prime objects for which the Congress assembles. It meets in different countries, and, instead of representing the idlers and summer loiterers of the profession, it represents the true greatness and intellectually active element. Nearly all the original experimental observers in the medical world come together in this way biennially, and compare notes, exchange views, and greatly enlarge and extend the domain of scientific medicine. Funds for the entertainment of members of the Congress must, in the nature of things, be provided by the Americans. Every honest, intelligent member of the medical profession should feel a pride in contributing in some way to the success of this Congress, for it will represent every particle of respectability in scientific attainment of the medical world. Reduced rates of travel have been secured on all the railroads in this country, and even the lines of ocean steamers, with one or two unimportant exceptions. If any member of the medical profession having enough professional and patriotic pride finds himself unable to attend the Congress, let him send ten dollars to Gen. John B. Hamilton, Secretary General, who will resister the name of the contributor as a subscriber to the volume of published transactions.

Vol. 11, No. 1—4.

A GRACEFUL
RECOGNITION
OF PUBLIC
SERVICE.

At a recent meeting of the medical and surgical staff of the Louisville City Hospital, a resolution was adopted requesting the Board of Commissioners of Public Charities to create the office of Consulting Gynæcologist to the institution, and requesting that Prof. William H. Wathen, who has faithfully served the institution as a staff officer for the past ten years, should be elected to that position. Dr. Wathen was the first surgeon to the gynæcological department of the hospital, and after a long and faithful service has been complimented by his colleagues in a manner quite gratifying to his friends.

CHANGES AT
THE HOSPITAL
COLLEGE.

DR. J. M. CLEMENS, for more than twenty years one of the leading practitioners of medicine in Louisville, a conspicuous figure in medical society work, in letters and in science, has been elected by the curators of Central University to the chair of the Principles and Practice of Medicine and Clinical Medicine in the Hospital College. Prof. Clemens is well-known to the readers of medical literature, who will, no doubt, rejoice at the promotion of so worthy and good a man.

DR. W. C. DUGAN, a long time First Assistant Physician to the Insane Asylum at Anchorage, Kentucky, a frequent contributor to the literature of experimental pathology, has been elected to the chair of Anatomy and Microscopy with a joint lectureship in clinical surgery at the Hospital College. PROF. SKINNER has been translated from the chair of Anatomy to that of the Principles and Practice of Surgery, while DR. T. HUNT STUCKY, well-known as an adjunct to this chair, has been promoted to the Professorship of Surgical Pathology, Surgical Dressings and Clinical Surgery. DR. JOHN H. LARRABEE will grace the office of Demonstrator of Anatomy.

PUBLISHER'S DEPARTMENT.

In this portion of the Magazine will be found notes of many things of interest to the student and practitioner. PROGRESS will print advertisements of reputable houses only, and articles of merit; it will therefore be a courtesy and favor to us for our friends who may be influenced to inquiry, correspondence, or trial, as a result of an advertiser's announcement in PROGRESS, to make mention of the fact, and so give the best of evidence as to the value of our pages to those who favor us with their business.

PAPOID and its use in the treatment of dyspepsia.—Dr. George Herschell writes as follows: "For some time past a drug has been before the medical world called Papoid, which claims to be able to replace pepsin and pancreatin in medicine. It is a powder, and is prepared from the juice of the *Carica papaya*, or melon-tree. Its properties, as determined by Professor Finkler, which will advantageously compare with those of pepsin and pancreatin, are (1) It digests in acid, alkaline, or neutral fluids, best of all in water. (2) It will dissolve 1,000 times its own weight of fresh blood-fibrin. (3) Its action is increased by the presence of pepsin and pancreatin. (4) It acts at the temperature of the body. (5) Meat infused with a solution of papoid keeps, while undergoing a softening process, much longer than it does without it. From this, it can be inferred that it has an antiseptic as well as a peptonizing action. (6) The product of its action is pepton, which, from its properties, may be taken to be Meisner's C Pepton. (7) Papoid adheres to albumen to such a degree as to prevent its being removed by protracted washing with water. (8) Papoid, in contrast to pepsin, acts when the resulting pepton solution is highly concentrated. (9) The addition of antiseptics, such as salicylic or carbolic acids, does not interfere with its action. Hence, in papoid we have apparently an ideal digestive ferment. I find it chiefly valuable in the following classes of cases: (1) *Chronic Stomach-Catarrhs of Children*.—These cases rapidly improve with the following prescription: R. Papoid, gr. $\frac{1}{2}$ gr. j; sacch. lactis, gr. j; sodii bicarb., gr. v. M.—To be taken after every meal. It is also advantageous to give a drop or two of tincture of nux vomica immediately before the meal in a little water. (2) *Acid Dyspepsia*.—R. Papoid, gr. ij; sacch. lactis, gr. v. M.—To be taken an hour after meals with the following draught: R. Sodii bicarb., gr. xv; glycerin. acid carbolic, mviij; spirit. ammon. aromat., mxx; aq. ad $\frac{3}{4}$ iss. M.—Fiat haustus. Taken one hour after a meal, a smaller dose

of papoid is required to produce the same result if taken with the food. (3) *Cases where Severe Gastric Pain coming on shortly after Eating is the Prominent Symptom*.—I have tried the drug upon twelve cases of this nature. Complete relief was given in ten, one case was partially relieved, and one completely failed to derive any benefit."

A. M. CHORD, M. D., Logansport, Indiana.—Peacock's Bromides is a valuable remedy, and I can heartily recommend it to the profession where the use of such a preparation is indicated. It takes the place in our list of remedies that has long been needed. It is all that is claimed for it.

THE page of this number next back cover is occupied by the announcement of Messrs. Parke, Davis & Co. The older practitioners all know, and the younger ones should be possessed of the same knowledge, that they are a liberal, reliable, and enterprising house, and their products have a reputation world-wide and richly merited. We trust the friends of PROGRESS will test its indorsement of the firm liberally and often.

MR. GEO. A. NEWMAN, agent for the Eastern department for California Fig Syrup Co., has received very pronounced indorsements from the medical profession in Louisville, and desire to have practitioners, who have failed to test the preparation, write to him for samples. Mention PROGRESS.

PHYSICIANS are invited to write Hall & Ruckel, 218 Greenwich Street, New York, for samples of LYONS' TASTELESS QUININE Preparations. They will be sent free. Mention PROGRESS.

MR. J. W. FOWLER, the skillful and enterprising pharmacist of this city, who is continually supplying the practitioner with his new and efficient preparations, was the first man out of New York City to manufacture tablet triturates and hypodermic tablets. He has discovered a base that is very soluble and does not harden by age, and is perfectly harmless. He very deservedly secures the patronage of the leading physicians of the Southwest.

R. A. ROBINSON & Co.'s hypophosphites and wine coca are fully described in their advertisement. They publish the indorsement of several prominent physicians, who prescribe and recommend both preparations. Their lime juice and pepsin is a very agreeable and popular medicine.

PROGRESS

A Monthly Magazine for Students and Practitioners of Medicine.

"I HOLD EVERY MAN A DEBTOR TO HIS PROFESSION; FROM THE WHICH AS MEN OF COURSE DO SEEK TO RECEIVE COUN-
TENANCE AND PROFIT, SO OUGHT THEY OF DUTY TO ENDEAVOUR THEMSELVES, BY WAY OF AMENDS, TO BE A HELP AND
ORNAMENT THEREUNTO. THIS IS PERFORMED, IN SOME DEGREE, BY THE HONEST AND LIBERAL PRACTICE OF A PROFES-
SION; WHEN MEN SHALL CARRY A RESPECT NOT TO DESCEND INTO ANY COURSE THAT IS CORRUPT AND UNWORTHY THEREOF,
AND PRESERVE THEMSELVES FREE FROM THE ABUSES WHEREWITH THE SAME PROFESSION IS NOTED TO BE INFECTED; BUT
SUCH MORE IS THIS PERFORMED, IF A MAN BE ABLE TO VISIT AND STRENGTHEN THE ROOTS AND FOUNDATION OF THE
SCIENCE ITSELF; THEREBY NOT ONLY GRACING IT IN REPUTATION AND DIGNITY, BUT ALSO AMPLIFYING IT IN PROFESSION
AND SUBSTANCE."—BACON.

VOL. II.

LOUISVILLE, KY., AUGUST, 1887.

No. 2.

GENERAL MEDICINE.

RHEUMATIC ELEMENT IN CHOREA.

BY

OCTAVIUS STURGES,
M. D., F. R. C. P.,
*Physician to the Hospital
for Sick Children,
London.*

[*Archives of Pediatrics.*]

[CONCLUDED.]

We have looked at this question so far from the point of view of chorea; let us now look at it for a little from the point of view of rheumatism. It is curious to notice that while the literature of chorea is much per-

plexed with questions about rheumatism, the literature of this latter disease hardly concerns itself with chorea. The reason is, no doubt, that the historians of rheumatic polyarthritis take as their model that period of life when the disorder is most typically expressed, with its high fever, swollen joints, acid sweat and urine, and such general stiffening of the limbs as tells its own tale at a glance. That period corresponds with early manhood or womanhood, an age which has little to do with chorea, although, unquestionably, rare and striking cases of that affection do occur now and again on the female side.

Now, if we take rheumatic polyarthritis at this its most characteristic period, and working up the stream of time pass in succession youth, boyhood and girlhood, childhood, infancy, the more marked features of the disease continually fade until, as we near infancy, we reach those dubious and transitory forms of joint-pains which, unless the state of the heart interpret them, some

reckon rheumatism and some not, thus rendering very precise estimate of rheumatic frequency in little children impossible. Observe, however, that the time of life when rheumatism is most distinct and characteristic is also the time when chorea is hardly seen. The rare cases that occur are almost confined to women, some are revivals of a childish chorea, some the direct result of nervous disturbance (as in pregnancy); very few exhibit recent heart-disease or are immediately connected with rheumatism. Thus, as life goes on and the full and completed features of rheumatism begin to stand out more and more distinctly, the choreic alliance is gradually thrown off, until at adolescence the two affections stand apart, each after its own likeness.

Thus, in the early association and the later separateness, the behavior of the two affections is curiously contrasted. The one waxes as the other wanes. It is true that a cardiac murmur may be the first and single symptom both of chorea and of rheumatism in young children, leaving us for a while in doubt as to which of these two affections will be paramount. But it is also true that the chorea of this age is more fully expressed than at any later time, for it is not a motor disorder only, as it afterwards becomes, but exhibits paresis as well. It is the precise reverse with the rheumatic element, the arthritis, which is the great characteristic of rheumatism in later life, being now habitually limited and ill-expressed. Contrast with this the chorea and the acute

rheumatism of puberty. The one is a movement disorder of emotional young women, often of great violence, originating commonly in mental disturbance, without paresis, without heart-affection, and, as a common rule, at all events, without articular pains. The other is an acute inflammatory disease which implicates many joints at a time, as well as the heart, and with no emotional element. Its commonest cause is exposure, and commonest subjects sturdy day laborers. But at this point, if I mistake not, the reader will be prepared with objections. We have yet to consider the two affections in question in reference to their etiology, and here, at least, it will be urged, they are quite separate. The exciting cause of rheumatism, at whatever age, is exposure; that of chorea has nothing to do with exposure, except indirectly. That is one objection to the theory of a common pathogenesis. And there is another; upon my own assumption that rheumatism becomes more and more equivocal the nearer infancy is reached, we are forbidden to accept every case of chorea as being really rheumatic merely on the ground that some joint-pain attends it.

As regards the first point, namely, that rheumatism is always the result of chill, I might quote the child Mabel, the subject of my text. She had, as we have seen, chorea and rheumatism in close association, mental disturbance preceding both. Apart from prepossession, there is no warrant for ascribing the one affection any more than the other to any source except a nervous one. But let that pass. Acute rheumatism, no doubt, has its main cause in exposure, and obtains most in climates where the risk of exposure is the greatest. But as with other chill diseases, as with pneumonia, for example (with which I ventured to compare it years ago), chilling of the body is not the sole cause, even if it be in every instance a necessary factor in the production of rheumatic polyarthritis. Our common habit is to look for some evidence of exposure, and

often, no doubt, we find it. But failing to find it we seek no further. There are no other avenues of inquiry as yet opened up by official sanction. Yet many years ago Corrigan called attention to the fact that fatigue has its share in the production of rheumatism. The patients, he observed, were often tired by laborious exertion, as well as heated and exposed. More recently Senator, in the treatise already quoted and with no after-thought (for he hardly mentions chorea), suggested that mental emotion might contribute to produce the disease, citing an instance of that sort in his own experience. Certainly it is not uncommon to find children with rheumatism where there is no history whatever of undue exposure. Recent observation, indeed, together with the revival of opinions which are not altogether recent, has opened for us a new chapter in reference to the relationship of nervous disorders and polyarthritis, whether rheumatic or not. Hence the force of the objection does not lie so much in the fact that rheumatism is a chill disease, which chorea is not, for there is "a growing belief," as Dr. Weir Mitchell reminds us, "that rheumatism may have more forms than one." It is rather this: That in order to secure such intimate relationship between chorea and rheumatism in early childhood as I am contending for a certain proportion of cases have to be utilized when the chief evidence of rheumatic arthritis is derived from slight and fugitive joint-pains. With this decisive evidence we are able to adduce how examples of this dubious kind are not numerous enough to affect the question very materially; still, to avoid cavil, let the contention run thus. Chorea in young children is intimately associated with arthritis, rheumatic and other. Thus, generally stated, the effect of the proposition is but to add chorea to the number of nervous affections, structural and functional, which have been noticed of late years in connection with lesions of the joints.

It would be beyond the scope of the pres-

ent paper to speak in any detail of the nervous diseases, functional and organic, associated with changes of nutrition in the joints. The subject presents itself under three headings; one, the nerve injuries, whether of the cord or brain, which are followed by an inflammatory condition of the joints, indistinguishable from rheumatism; another, *tabes dorsalis*, with destructive arthritis, in what is known as Charcot's disease; a third, joint-inflammation simulating articular rheumatism, but not deforming or destructive, in company with some form of paralysis which is itself temporary and due to fatigue or exhaustion. "Any form of nerve-lesion," says Dr. Weir Mitchell, "the brain included, may develop in the joints inflammatory conditions, usually subacute, and which so precisely resemble rheumatic arthritis that no clinical skill can distinguish between them." Professor Charcot speaks in much the same sense, and alludes especially to the joint-affections of hemiplegic patients.

To like purpose is the observation that recovering paralysis, the result of mere fatigue and over exertion, may be accompanied by polyarthritis, indistinguishable from the rheumatic. In a case of the kind quoted by Sir William Gull, a woman, aged thirty-nine, was thus affected in the larger joints after severe and unusual bodily exertion. She made a good recovery, and the narrator in commenting upon the facts writes: "Whatever the state of the cord, the paraplegia was clearly induced by fatigue, acting upon a delicate and anxious subject;" and he adds that Dr. Addison, his colleague, had "long drawn attention to the close connection between spinal lesions and true rheumatism," so difficult is it to trace the exact parentage of pathological observations.

We have authority, therefore, for saying that lesions of the higher nerve-centres and of the cord are apt to exhibit arthritis indistinguishable from rheumatism; that such lesions are not always permanent or de-

structive, either as regards the joints or the nerve-centres; and that among other causes of this conjoint affection may be reckoned fatigue, emotion, and anxiety. And here it seems obvious to include a familiar form of *arthralgiæ* occurring in hysterical women. Apart from any near resemblance of articular rheumatism, it can be by no mere accidental coincidence that we observe, from time to time, both in chorea and hysteria a sudden onset of acute joint-pain in knee or wrist, which after lasting, say for a night, and causing active complaint and distress, will vanish altogether by the morning.

Observations of this sort, ample as they seem in proof of a near sympathy between nerve-lesions and arthritis or arthralgia, are unfortunately the reverse of precise as regards the locality or nature of the nerve-injury. Some recent authors have been bold enough to pursue the subject further by the aid of argument and hypothesis, which I do not venture to follow. Prominent among these is Professor Latham, of Cambridge, who, in his learned and original Croonian Lectures, delivered last year at the College of Physicians, supposes as the immediate cause of chorea "exhaustion or weakening of vaso-motor fibres proceeding from the upper cervical ganglion to form the carotid plexus," due to prolonged stimulation; and as a result of such exhaustion, "vascular dilatation and circumvascular change in the track of the middle cerebral artery."

Such morbid change, as the author points out, would be precisely similar to that described and figured by Dr. Dickinson as the anatomical expression, so far as the brain is concerned, of chorea, diabetes, and disseminated sclerosis. It is added that "*so far as the nerve-cells are concerned*" (the italics are the Professor's), "the same result would be produced as ensues from embolism. Their co-ordinating action would be paralyzed, and such changes would produce the incoordinated movements of chorea."

Of such explanation I would only say

that it is not helped much by the comparison with the results of embolism. The embolic theory of chorea, put to trial both by dissection and experiment, no longer survives, and no one has done more to demolish it than Dr. Dickinson.

There is another hypothesis (for it is no more, as the author is careful to explain,) put forth by Dr. Buzzard as the interest of the gastric crises occurring together with joint and bone-affections in locomotor ataxia, the hypothesis, namely, that there is "a trophic centre for the osseous and articulatory system in immediate neighborhood of the roots of the vagi." The supposition is one which we must either take or leave in its fullest application. And, while admitting its inherent probability, the hypothesis is one not to be greatly furthered by means of chorea, an affection which is apyrexial, and wherein, notwithstanding that its subjects are children, gastric disturbance is conspicuous by its absence.

Leaving such speculation, I would, in conclusion, rehearse the general inferences to which the facts tend, and attempt to reconcile them with recognized pathological laws. To recapitulate, the rheumatic element in chorea, it would seem, varies considerably at the several stages of childhood. It is conspicuous at the very first; apparent in the older children; discernible yet infrequent in adolescence. Moreover, this earliest period, during which the concurrence of the two affections is frequent and intimate, is also the period when rheumatism itself is often an equivocal and indefinite disease, being expressed mainly by such cardiac signs as it shares in common with chorea, rather than by the articular inflammation which characterizes it in young adult life.

This full development of acute rheumatic polyarthritis as a widespread and enduring inflammation involving many joints at a time, is the signal that the time has come for the decline of chorea, both as to frequency and as to its cardiac and paresis symptoms. What hypothesis is to be set

up? To what law of nature should we appeal to explain this age variation? Whatever the hypothesis, let the facts be kept clear of the theories. What has been said claims to be based on clinical observation. What remains will be speculative comment and may altogether miss the mark. I would carefully separate the one from the other.

Let it be granted that the relationship between nervous lesions, both functional and organic, and arthritis or arthralgia, sufficiently established by many illustrations, of which chorea in its association with rheumatism supplies one. The observation is as yet incapable of anatomical expression. Yet, while accepting it as a reality, we may possibly by interrogating the facts a little further reach some reasonable hypothesis to explain, in the case of chorea and rheumatism, why this connection is intimate at the first, feebler in later childhood, and hardly recognizable in adult life. I submit that an examination of the pathology of early life in its successive stages of development, up to the period when neither chorea nor acute rheumatism survives, gives the key to these variations.

Observe that chorea and rheumatic arthritis, whether in union or apart, are first discernible at a period of life which though past infancy is yet near enough to that age to retain some of its characteristics. Now, in infancy morbid phenomena are the most generalized, and concern mainly the nervous system, the excitability of whose reflex centres is excessive. At this age impressions of the most various kinds, whether central or peripheral, have a common issue in convulsion—convulsion which if not general is so variously and capriciously bestowed that the part selected for spasm gives but little guide to the source of it. Even when infancy has passed, and convulsion begins to limit its area, there is still a remarkable indifference and changeableness in its modes of display. Thus, with a young child spasm of the larynx will very readily

pass to the diaphragm, so that there shall be stridor or laryngismus one day or one hour and dyspnœa the next. And speaking generally, many central lesions—cerebral hemorrhage, tumor, embolism—which in after-life give definite notice of their seat by means of the particular muscles they affect, are in early childhood so confused together that any attempt at localization would be futile. The nervous function is as yet imperfectly differentiated; it is unable to appreciate various sources and modes of irritation, or to separate them one from the other. And so long as this process of differentiation remains incomplete we should expect (as we find) that those morbid phenomena which, there is independent reason for believing, have a real kindred—depending, so to say, upon the stimulation of neighboring centres—should for the while be merged and confused together. But growth and use have a constant tendency to draw them apart. Differentiation becomes more accurate, while at the same time external and accidental circumstances impart their own bias in this direction or in that.

Let me make my meaning plain by an illustration. Take any of the examples that have been already quoted by young children exhibiting side by side chorea and rheumatic arthritis. In these we have a group of symptoms, motor, cardiac, articular, signals in common of some nervous disturbance. Here, no doubt, are the elements out of which in later life we construct two diseases. But at present they are not two, but one. And by their appearance at this exceptionally early period of life they prove a special liability on the part of their subject both to chorea and to rheumatic arthritis. Now, there are in the world choreic inducements and rheumatic inducements, and there are epochs of life which are favorable to the development of the one disease now to the other. And so in life's progress it will depend very much upon accident whether the child supposed shall develop chorea or rheumatism. She is ready

for both, yet with a varying preference which is determined mainly by age. But this comparative indifference is of short duration. Let a child be encountered with consequent rheumatism, or a sudden alarm with consequent chorea, and either of these disorders will impress its own likeness and impart a proneness to repetition. But it is not the cause alone that has to be considered; there is the season of life as well. Chorea, for reasons that need not now be discussed, is a child's liability, favoring the female sex. Rheumatism is a young adult liability, with no marked sex preference except (as has been shown) in early childhood. We see, therefore, in that later period of childhood when the two diseases have, so to speak, joint reign, the one or the other occurring by preference according as accident has determined the character of the early attacks, while still the liability to suffer in either way is not yet at one end. Up to a certain age fright or nervous excitement may cause chorea in a rheumatic subject, or exposure rheumatism in a choreic subject. But soon this double liability ceases. That time of life comes when the reign of chorea is feeble and nearing its end, while rheumatism takes wider expansion and becomes endowed with many prominent characteristics which have been hitherto absent.

But it is needless to pursue the subject further. My main design, indeed, is not to discuss theories, but to call attention to facts which have only now become known to me. Looking at chorea as a whole, I have always sided with those who maintain that its relationship to rheumatism is often exaggerated, and that the manner of the association in certain instances is far more striking than its frequency upon the whole. That is my contention still; but, as I now perceive, it is incomplete. A full examination of the question from point of view selected in the present paper, compels the further conclusion that chorea and polyarthritis in their pathogenesis are nearly akin, while at the same time, as I venture to think, it suggests

the reason why these two affections, although cradling together, should have but a short-lived intimacy, as well as the nature of the agency which soon begins to relax the bond of union and at length altogether dissolves it.

MITRAL
STENOSIS
WITH GRAN-
ULAR KIDNEYS.

BY

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[*British Medical Journal.*]

My first attention was drawn to this relationship about four years ago by a gouty man, over fifty, admitted with an attack of hemiplegia due to cerebral hemorrhage, who had granular kidneys. There was a

loud first sound, with a short, definite, blowing, systolic *bruit* limited to an area of an inch in the region internal to the apex-beat, in whom mitral stenosis was diagnosed. Shortly afterwards a man, who had only a loud first sound at the apex, with no second sound audible, whose kidneys were cirrhotic, was found *post-mortem* to have also a contracted mitral orifice. Since then I have observed several cases; there has usually been no difficulty in diagnosing the granular condition of the kidneys, but the stenosis of the mitral has some times been unsuspected till after death, and while its existence was often readily diagnosed in some, it could only be suspected in others. A presystolic *bruit* was the exception rather than the rule.

Quite recently there have been two cases under my care. The first was a woman, aged about fifty, who was admitted comatose, with meningeal hemorrhage. She had granular kidneys, and a small mitral orifice, which I had suspected from the marked accentuation of the first sound and the feebleness of the second at the apex. The other was a woman, aged forty-five, with albuminuric retinitis and granular kidneys, who for a long time had only an accentuation of the first sound and absence of the second at the apex, with a soft, long, systolic *bruit* in-

ternal to it; she has now developed a well-marked presystolic *bruit*.

The symptoms which have been most frequently observed in this group of cases are a loud first and a weak or absent second sound at the apex, accompanied or not, as the case may be, by a systolic *bruit*, which often may be extremely localized. The second pulmonary sound is usually accentuated or reduplicated. At times only a presystolic rough or rumbling *bruit* is audible. It is, hence, not at all surprising that an inexperienced auscultator should record that the heart-sounds are normal; as it is some time before students recognize that other signs besides the mere presence or absence of a *bruit* may be of importance.

I have searched the records of the Guy's *post-mortem* room for the preceding ten years, and find that during that period there were 542 fatal cases with granular kidneys, of which 33 (23 women, 10 men) had mitral stenosis (that is, 6 per cent), while only 2 per cent of the total fatal cases showed mitral stenosis; so that a contracted mitral is three times as common among patients with granular kidneys as among other patients.

During the same period there were 115 cases of mitral stenosis, so that one fourth of them were also suffering from granular kidneys; a further examination showing that while the proportion was about one fifth for the men, it was one third for the women. Two thirds of all the cases of mitral stenosis occurred in women.

Most authors allow that atheroma of the vessels and endocardium is a frequent sequence of granular kidneys, and hence that arctic failure, which is the most frequent result, is more common among adults than among children.

In children, rheumatism is the predominant cause of valvular disease, and we find both mitral incompetence and mitral stenosis frequently resulting. I am not aware, however, that attention has hitherto been drawn to the fact that one third of all the fatal cases of mitral stenosis in women, and

one fifth in men, are associated with granular kidneys; and if the cases under puberty be excluded, the proportion for women amounts to almost one half. Of these, doubtless the complication is a mere accident in some, but there is a large number in which the secondary degenerative vascular lesions set up by the impure blood and high blood pressure have led to thickening and contraction of the mitral orifice.

On looking at the reports, I was struck by the number of cases in which the women had borne children, and it was noted that the kidneys were scarred as well as granular; lesions due to consecutive nephritis at the times of pregnancies most probably.

Whether the nephritis set up by pregnancies is more likely, on account of the concomitant factors of impure blood and excessive abdominal tension, to set up sclerotic changes in the endocardium is at present unknown, but the increased proportion of granular kidneys among the female cases of mitral stenosis points that way.

An analysis of the twenty-three female cases shows that in only three cases was there a history of rheumatic fever, and in one of these there was also gout. In a fair proportion of the others it is probable that the granular degeneration of the kidneys was a consecutive nephritis, due to pregnancy or other uterine trouble. The hearts were larger than the average and the kidneys smaller, hence it is most probable, in the absence of any other cause, that in most of the cases the mitral stenosis was secondary to the kidney degeneration. The ages of the patients were between 32 and 58 in 17 out of 22, and between 46 and 66 in 7 of the cases. The youngest patient was 21.

An analysis of the ten male cases gives a history of gout in four, rheumatic fever in three (one being also gouty), cancer of pancreas and syphilitic lardaceous disease in one each. The evidence is also strongly in favor of the mitral stenosis being secondary to the granular condition of the kidneys in

seven of the cases. In nine out of the ten cases the ages lay between 46 and 66; the other patient, whose cardiac trouble was probably rheumatic, was aged 35.

If granular kidney be produced by heart disease, it would not be unreasonable to expect that among this series of cases there would be some among young people in whom mitral stenosis is not uncommon, yet only two patients are under 32. Hence, as the two diseases are frequently associated together, we are led to the conclusion from these cases that granular kidneys are a frequent cause in middle life of mitral stenosis, but that this cardiac degeneration only ensues in a few cases of granular kidney, and that there is no definite evidence that mitral stenosis produces granular kidneys. It is also instructive to notice that the average age at which the women die is 42, while the average age of the men is 52, the primary cause in the former frequently being pregnancy and in the latter gout, and this is probably the explanation of the difference in the ages.

THE BUFFALO LITHIA WATER.

In the New York *Medical Journal* of August 20th, appears an article on the use of the Buffalo lithia waters in the treatment of diseases of the nervous system, by Dr. G. Halsted Bayland. The waters from springs Nos. 1 and 2 seem to be most in favor. A patient with pain in the epigastrium after eating, anorexia and dispnoea of many years standing, who had been subjected, unsuccessfully, to various modes of treatment, was completely restored to health after using from six to eight glasses a day from spring No. 1, before meals, for a period of six weeks. Case No. 2 was one of "emaciation, lethargy, cerebral exhaustion, and melancholia, with torpidity of the bowels and liver." Two glasses from spring No. 1, three times a day, before meals, for six weeks, brought about recovery, with increased flesh, vigorous mental activity, and entire absence of melancholia.

GENERAL SURGERY.

GONORRHEAL
PERITONITIS.

BY

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MISHAWAKA, IND.

Read to the Mississippi Valley Medical Association,
Crab Orchard Springs,
Ky., July 15, 1887.

I doubt if I could present to your consideration a subject of more importance or less interest than gonorrheal peritonitis, and in doing so I do not expect to present any thing new, but if I can

cast a light upon the subject that will cause you to see the gravity and dangers of a simple gonorrhea I will have accomplished all I hoped for.

Gonorrhea *per se* is one of our common complaints, and being common is treated as a simple local affection, with too little thought of the possible dangerous *sequela*. Even the laity pretend to skill in its treatment; and we as physicians too often say, "It is but a simple uncomplicated case of gonorrhea." I do not understand how any disease can complicate gonorrhea, but I can very readily understand how gonorrhea may complicate many other affections. And while I speak of gonorrhea simplex (?) in this article, it is simply as a preface, and not that I expect to teach you any thing in regard to its etiology or treatment.

It is now admitted, and I am sure abundantly proven, that there is a micrococcus called a gonococcus that is the cause of the disease. The discovery of Neisser was a great step forward in venereal pathology, the discharge of pus, and the urethral inflammation are now known to be but symptomatic—not truly pathognomonic—yet sufficiently so to answer all practical purposes.

A non-specific urethritis or vaginitis may be acid in its reaction on litmus. A specific or gonorrheal inflammation of any part always causes an acid secretion; the gonococci can not live in an alkaline menstrum or home; they travel along a mucous tract rapidly and from choice. I have frequently experimented with gonorrheal pus by vaccination in the true skin, and saving to some-

times set up a slight circumscribed dermatitis I have seen no results that the disease is inoculable on parts of the body other than the mucous tract of the genital organs. You are all aware of—as all of you have doubtless seen cases of—gonorrheal ophthalmia, with the ulcerated or perforated cornea. The ulcer on the cornea is self limited, but that limit is not reached until perforation has taken place. I do not mean that perforation is the end sought by the micrococci, but that the destruction of tissue is so rapid that perforation is merely a mile stone on the road of its action. Infection of the genital tract is a dangerous affection, and while in the majority of cases "as clap is no worse than a bad cold," no individual ever had the clap that did not have the shadow of a great danger hanging over him.

Gonorrheal peritonitis presents essentially the same symptoms as a peritonitis from other causes. The symptoms may be more severe, and the progress more rapid, as the cause is more active than many other causes of peritonitis. It is not necessary to give the symptoms or pathology of peritonitis, you know them too well to mistake them, and see cases too often to give you pleasure.

All of you have seen cases of gonorrheal orchitis. Did you ever closely examine and see how near that inflammation came to being a severe peritonitis? If you did, you found in every case a greater or less inflammation of the peritoneum. I have seen many such cases, and I affirm that not one ever entirely recovered. In 1875 I was called to treat a youth for gonorrheal orchitis. He had a mild peritonitis as well: he made an apparent rapid and perfect recovery. In 1887 he called upon me for advice, complaining of soreness of the bowels. Examination showed a sub acute or rather a chronic inflammation of the peritoneum. He told me that since his attack of orchitis in 1875 he always had a return of abdominal soreness in cold, damp weather or upon the least excess of any kind.

Another patient contracted gonorrhea in

the summer of 1884. He treated himself and presumed he was well. Six months after the cessation of the discharge, and three months after any exposure he consulted me. He complained, as the previous patient had, of a pain in the abdomen. Examination revealed a tender, slightly swollen testicle. In twelve hours thereafter the testicle was terribly sore and swollen; abdomen tender and somewhat tympanitic; tongue red and dry, temperature 103° . He remained in that condition for forty-eight hours, when there commenced a discharge of pus from the urethra, which gradually increased in quantity until it became copious. His orchitis and peritonitis gradually subsided; he also made an apparent recovery, only apparent however, for he frequently consults me, always complaining that bad weather or any pleasure causes pain and soreness in the abdomen. I had no means of making a scientific test for gonococci in the pus he discharged per urethrum, but I applied some of it to the eye of a dog, and it set up an acute ophthalmia which went on to perforation. Ever since I have felt sorry for the dog.

This last case would tend to prove the theory advanced by Noeggareth—which I firmly believe—that gonorrhea is never entirely cured. The two cases just cited are in my opinion chronic gonorrheal peritonitis, and are but types of many others that have fallen under my observation. I have never known a death in the male from peritonitis caused by gonorrheal infection, although several of our authors cite cases of that kind followed by death. Whether the germ passes through the vas deferens or the seminal vesicles to the peritoneum does not matter, either being the high road. In the female the gonococci proceeds up through the uterus, through the Fallopian tubes to the peritoneum, not in all cases, to be sure, but in many. And while the main symptoms are those pertaining to salpingitis, particularly pyo-salpinx, there is always a peritonitis, circumscribed or general.

In 1879 I was called to treat a lady for

pruritus vulva and leucorrhea. Examination convinced me that I had a case of gonorrhea to deal with, and the diagnosis was confirmed by the husband confessing to me that he had had gonorrhea, and had, during the continuance of the discharge, frequent connections with his wife. He also informed me that he had been told by his physician that as his wife was pregnant there was no danger of communicating the disease to her. Within a few days she miscarried a six months fetus. She soon showed symptoms of salpingitis, which was soon followed by a severe attack of peritonitis. Since that time she has been an invalid. At times she is apparently well, often she is confined to her bed with peritoneal inflammation. Refusing any but medical treatment that is far from satisfactory, her condition is one of constant anxiety and danger. Unforeseen and unexpected causes too frequently light the fire of dormant inflammation. It is a sad case and she is a sufferer indeed.

In 1877 I treated a young married woman for gonorrheal inflammation of the Fallopian tubes and peritoneum. About a year before marriage her husband had had gonorrhea, but supposed himself well. He had no urethritis or discharge from the urethra, and she had never had leucorrhea or vaginitis. This was a case, I believe, of latent gonorrhea communicated from the husband. She made an apparent recovery, as they nearly all do, but only yesterday, (June 31,) I was summoned to Cincinnati to make a laparotomy upon her, not to save her life, but to relieve terrible and long-continued suffering. I have not yet operated, but expect to within the next month. I do not believe that the gonococci propagate upon the peritoneum; that is a serous membrane, and I do not think it furnishes food enough suitable for the micrococci, but they do propagate within the Fallopian tubes, pus or an altered or abnormal secretion of the tubes escapes through the fimbria, and thus sets up and keeps up the peritoneal inflammation.

May 1, 1887, I was consulted by a girl aged nineteen, who complained of extreme soreness in both ovarian regions. She strongly denied having had intercourse, as well as to having a vaginal discharge. I suspected gonorrhea, or that she had had a miscarriage, but she would acknowledge neither. The ovaritis continued to grow worse, and by May 15th she was confined to her bed with peritonitis. She even then maintained her former assertion as to her chastity. By June 4th she was able to sit up, and continued to improve until June 18th, when she walked a long distance, and was that evening compelled to again take to her bed. She called no physician until the morning of June 23d, when I visited her. I found her pulse 160, temperature 105, skin cool and moist, though not cold and clammy, lips blue, *eyes bright*; tongue coated a brown, moist, thick fur; abdomen tympanitic, and tender; slight cough and dyspnea. She then acknowledged her exposure, and submitted to a vaginal examination. There was a copious greenish-yellow pus discharging from the vagina, the os was inflamed and granular, while from the uterine cavity there was a bloody pus slowly oozing. I was satisfied that the Fallopian tubes were filled with pus, also that there was pus in the peritoneal cavity. She was dying from septicemia. I urged Laparotomy for the purpose of removing one cause of blood poisoning, and hoped to be able thereby to save her life. She, as well as the family, objected, and after prescribing I left her. On the morning of June 24th I found her with pulse 120, temperature 101, skin cool, and more moist than yesterday; lips slightly redder, tongue cleaner, abdomen tympanitic, almost to bursting; countenance very anxious, eyes very bright, and the abdominal pains almost beyond endurance. I prognosed death within twelve hours unless she obtained relief. She and her family were anxious for abdominal section, and as a dernier resort I consented, though promising nothing. At 2 P. M., assisted by Drs.

Thorp and Van Pelt, and medical student Butterworth, I proceeded to operate. After passing through the linea alba I came upon a thickened and inflamed peritoneum, tense and protruding through the wound already made. I made a puncture through it, when out spurted, with considerable force, pus and serum. I quickly enlarged the incision to about two inches, through which poured pus, serum, and broken-down tissue to the amount, by estimate, of at least three quarts. The odor was horrible. After the evacuation I examined the cavity. I found the Fallopian tubes filled with pus and greatly distended; upon the ovaries I found several abscesses from the size of a pea to the size of a filbert, all filled with pus. The peritoneum was thickened and showed many granular spots. The intestines were distended somewhat with gas, and they, too, in places, showed granular spots. Adhesions had formed in many places, but they were not firm. After making as thorough a toilet as possible I closed the wound in the usual manner, leaving in the lower angle a drainage tube. She reacted well, coming soon from under the influence of the anesthetic. She expressed herself as greatly relieved by the removal of the tension caused by the tympanitis, but I could see she was growing weaker. The skin remained cold although the extremities were warmer, the sweating increased, the lips became a darker blue. The cough and dyspnea increased. I left her at 8 o'clock P. M. At half past eleven she died, her mind clear up to the last moment of her life.

I do not think the death was hastened one minute by the operation, though I do think, had I seen her and operated on the 22d, her life would probably have been saved. She died of septicemia, that might have been controlled if I had earlier removed the cause.

The treatment medicinally of gonorrheal peritonitis differs in no manner from the treatment of peritonitis from other causes, saving perhaps that antiphlogistics are more

urgently called for. To my mind surgery offers the most rational mode of treatment, and at the same time promises the most favorable results.

I would not in all cases make a laparotomy, yet wherever the inflammation was active, tympanitis great, and temperature high, I would not hesitate to make an incision through the abdominal walls, clean out the cavity, and insert a drainage tube. In the female I would particularly urge surgical interference, either in acute or chronic cases. If the uterine appendages are affected I would remove them. By so doing the danger to life would not be so materially increased from the operation, and the prospect of complete recovery is too flattering to pass by. Not only would I open the abdomen for gonorrheal peritonitis, but as well in all cases of severe peritoneal inflammation, where I am reasonably sure that there is a serous effusion of dangerous amount within the cavity. I have not yet to regret making the operation, but I do regret not doing so in many cases, for I am confident that bright lives have gone out that might have been saved by timely surgical measures.

Although not properly belonging to this subject, I feel that you will pardon me for reciting two cases of puerperal peritonitis:

Mrs. S., of Chicago, was confined January 23, 1887. January 25th her physician telegraphed me to come over to Niles, Mich., where she was staying with her parents, and where she had been confined. I found her suffering with septicemia and peritonitis. I made an ocular examination of the genital tract, and found no laceration of peritoneum. Cured the uterus but found nothing there excepting pus. The temperature was not high, only 101° , pulse small and thready, eyes bright, abdomen tympanitic and very tender. I suggested laparotomy as the only thing that promised a favorable result. The physician fully agreed with me, but the family would not consent. She continued to gradually grow worse. On Sunday, January 30th, a prominent physi-

cian of Chicago was called to consult with us. He would not even consider the possibility of pus in the abdominal cavity, and strongly urged recuretting the uterus, and thoroughly irrigating the uterine cavity with an antiseptic solution. To this the family readily consented, and we raised no objection, although we told the doctor that it did not meet our approval.

On the morning of the 31st she died. Two hours after death Dr. Belknap, the attending physician, and myself, made a post-mortem examination. We found both Fallopian tubes distended with pus, and a pond of pus back of the uterus of at least eight ounces. I am morally sure that that life might have been saved by promptly opening that abdomen on the 25th.

The other case, while fully as severe and unpromising, had a very different termination. Mrs. H., aged nineteen, was confined by a midwife on February 26, 1887, the perineum being lacerated. On the 28th I was called and found her with a temperature of 103° , pulse 140, hard and quick, tongue moist and coated, abdomen tympanitic and very tender, skin cool, and sweating profuse, eyes bright, countenance anxious, slight cough and dyspnea. I had very little hopes that she would live—in fact, none whatever, without surgical help. I suggested laparotomy, at the same time refusing to have any thing to do with the case unless I was free to treat according to my own judgment, and while not promising a recovery I insisted that her chances, on medical treatment alone, were absolutely *null*. Permission being granted, I made the ordinary abdominal incision, and found a quantity of pus and serum in the peritoneal cavity and pus in the Fallopian tubes. I removed both tubes and ovaries, cleansed the cavity, and closed the wound, leaving in a drainage. She made a complete and rapid recovery.

In closing, I would particularly urge my professional brethren to consider the gravity of gonorrhea, and to closely investigate the promises of cure of peritonitis by laparotomy.

EYE, EAR, AND THROAT.

ACUTE OTITIS

MEDIA.

BY

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[Read to the Mississippi
Valley Medical Association at Crab Orchard.]

Nearly every case of simple earache is primarily one of acute catarrhal otitis media. But, looking at statistics, one is inclined to challenge statements of the different author-

ities as to its frequency, *e. g.* Bückner's table of 43,730 cases of aural trouble gives only 6,180 as acute affections of middle ear. Roosa's tables of 43,510 cases give only 6,055. This, of course, includes both acute, catarrhal, and suppurative otitis media.

The tables serve to show that about one seventh of all ear troubles tabulated are those of acute affections of the middle ear. One is forced to observe that the per cent must be even greater than this, for many cases of simple earache never come under the observation of the practitioner, as the mother, or the old lady of the neighborhood treat them with some domestic remedy (and the active principle of these is usually heat; commonest among them is the hot salt bag, a very good one). Such cases seldom come to the practitioner or specialist until some complication arises which alarms them, then one obtains the history of the former trouble, or perhaps a history of an attack of scarlet fever, measles, diphtheria, etc., during that time the ears were affected, and have never been sound since. Such cases were originally acute catarrhal or suppurative otitis media.

Again; an adult will come to the aural surgeon and state that many months ago, or possibly years, he had a cold and some pain in the ear, with hardness of hearing at the time, and the organ has bothered him more or less ever since. These are primarily cases of acute catarrhal otitis media.

Again; many persons in this climate, suffering with catarrhal troubles, complain at every fresh cold that is taken they have trouble with their ears, pain, tinitus, hard-

ness of hearing, etc. Originally these were cases of acute catarrhal otitis media. Now, add these cases to statistics we will have a much greater per cent. Statistics in many instances amount to very little.

Children are much more liable to these affections than adults; indeed Tröeltsch noted this fact long ago, and says in his work (on "Diseases of the Ear in Children"): "In childhood, aside from a few weeks immediately following birth, an unusually strong predisposition to disease of the middle ear exists, owing on the one hand to the double morphological relation of the ear and the pharynx, and on the other hand to the diseases and condition of life to which the child is frequently exposed."

So, taking this relationship of the ear to the pharynx; first, a direct communication between the middle ear and throat by means of the eustachian tube, and then the intimate vascular and nervous relationship, is it then not strange that we do not have more trouble with the ear than we do, arising from the throat, whether of a local origin or constitutional, as in the exanthemata?

Cold is the most frequent cause in adults; the exanthemata in children.

During the past few weeks we have had in our city (Indianapolis) an epidemic of rothilu, rubeola, and scarlatina, affecting both adults and children, and in conversation with physicians find a vast majority of their cases were affected a few days with an aural complication (acute catarrhal otitis media), and but very few went on to the suppurative variety.

Teething and pertusis are often causes of acute inflammation in children. During the summer months boys often have this affection, the result of frequent diving.

Blows upon the head—inflammation of contiguous tissue will sometimes set up an otitis media.

Foreign bodies may cause it, and large doses of quinia sulph. or salycilic acid frequently repeated may interfere with the

functions of the middle ear and cause trouble. However these agents have a more decided influence upon the labyrinth.

The subjective symptoms are varied according to the severity of the attack, from a simple stuffy feeling (due to the deep congestion of the mucous membrane and want of intra tympanie air pressure) to the most violent pain.

The severity of the pain is often taken in the early stages, as a means of differential diagnosis, between the catarrhal and suppurative varieties, being more severe in the latter. But this can not be relied upon however, for the simple reason the doctor, as a general rule, does not see the case early enough, for the suppurative variety follows so *very* quickly in some cases.

The pain in acute catarrh is usually worse at night; in fact the sufferer dreads the approach of darkness. Possibly this is due to gravitation, as there is more blood in the parts when one is in the recumbent position. The pain is generally of a darting character, ranging from the ear to throat, and vice versa; sometimes it courses along the branches of the fifth pair of nerves, and in such cases one must not take it as a simple neuralgia.

In young children the amount of pain they experience is hard to estimate, and just where it is located is sometimes difficult to determine. They often awake suddenly, crying most piteously, and this symptom has sometimes been mistaken for a colic. They often utter peculiar shrieks in quick succession. The pain is aggravated by pressure over and around the tragers.

The cause of pain in acute otitis media is quite apparent. First, there is a difference in the air pressure within the tympanic cavity and without, for the eustachian tube has become impervious to air, and the secretions, and at the very onset of the disease the drum head is retracted, and the ossicula are driven in against the promontory by the normal air pressure from without. The mucous membranes of the tympanum

and eustachian tube are in apposition from the great congestion and swelling. This also explains another symptom usually complained of, viz., a sense of fullness about the parts. Tinnitus is nearly always present. Some complaining of ringing of bells, buzzing, hissing, as of escaping steam, etc. Hardness of hearing will be complained of next to the pain. Very observant persons notice a change in the sound of their voice as being "unusually hollow," or "like they were talking in a barrel," etc.

The objective symptoms are mainly these: At the onset of the attack the M. T. is retracted, absence of the cone of light, slight injection of vessels along the momubrianmemb. flaccida and periphery of M. T. The outlines of the mulleous are sharp, and it stands out in bold relief.

After secretion has taken place, and the products of the inflammatory action have filled up the cavity, there is usually a decided bulging of the M. T., dull of color, absence of cone of light, the mulleous hard to define, and the injection of the vessels much more marked. The vaso pharynx is generally in a high state of catarrhal inflammation, and especially around the faucial end of E. tube. The tube is closed on account of the great congestion and swelling of its lining mucous membrane. Usually there is no fever to speak of in acute catarrhal otitis, unless accompanying so febrile attack. The brain symptoms are not taken into consideration, but if it should merge into a suppurative form (usually ushered in with a chill, quickly followed by fever) the brain symptoms may become quite alarming.

The treatment of catarrhal otitis media acute is in the majority of cases quite successful; however, it sometimes taxes one's resources to the utmost. Roosa states, "The treatment is predominantly an acute phlogistic one," and practice confirms the correctness of his statement. The first thing to do is to relieve the pain. Leeches are in these affections usually our greatest ano-

dyne. Patients sometimes drop off to sleep during the action of them, when they may possibly have not slept for nights. One to six leeches are used, according to the severity of the symptoms (and the age of the patient) over and around the tragus and behind auricle. An opiate in combination is sometimes quite serviceable, at other times it may be of no avail.

Next to leeches hot fomentations or gentle injection of hot water are serviceable. In some cases a few drops of a warm solution (four per cent or stronger) of the muriate of cocaine affords instant relief. Three or four drops of a warm solution of morphia et atrophina (ãã g r j 3 j) is quite serviceable, especially in the absence of cocaine. Never drop any thing cold into the ear in such cases.

It happens occasionally, especially in infants, that simply blowing the warm breath or hot tobacco smoke into the auditory canal gives relief for the time being (this is one of the *good* domestic remedies). In the absence of leeches, cups or the artificial leech would be advisable. Blisters are not advisable; more applicable to chronic affections.

The difficulty with poultices is just this, the M. T. may become macerated from the long continued moist heat and the suppurative stage or variety hastened, and rupture take place. The rupture is a very ragged wound usually, and not so easily healed as a clean incised wound that a paraentesis needle makes. Scarification of the M. T. has been recommended by Blake, but one must be an adept in handling the lance or great damage might be done by its use.

When there is a decided bulging of the membrane, and it appears that a rupture is imminent, paraentesis should be performed, preferably in the lower posterior quadrant, so good drainage will be secured. It is very efficient in the relief of pain at this stage.

Now, one can gently inflate the middle ear by means of the eustachian catheter and air bag (this should never be done in the

acute stages, as one only aggravates the trouble by increasing the intra-tympanic pressure). It equalizes the pressure, prevents adhesion, and drains the cavity. Where these cases merge quickly into the suppurative variety the mastoid cells sometimes become involved. If the tissues over and around the mastoid process become very red, tender, and boggy to the feeling (resembling an erysepalitious inflammation very much) and does not yield to such measures as hot fermentations, etc., and the slightest cerebral symptom manifest themselves, it is best to make a free incision through the tissues to the bone, and with an exploratory drill enter the cells. Usually a free incision depletes the parts, relieves the tension, and accomplishes good. If the exploratory drill reveals pus, then trephining, drilling, or opening them up with a chisel, and instituting free drainage with thorough antiseptic precautions is necessary.

I think, as a general rule, we do not pay enough attention to this part of the middle ear, and therefore do not recognize the mastoid complication early enough. So once in a while, like a thief in the night, we have fatal meningitis to combat before we least suspect it. It therefore behooves us to be on our guard in these cases, no matter how trivial the ear trouble may seem.

The naso pharynx should be looked after from the very start, and means employed for its relief. Sometimes enveloping the neck with a large warm poultice (flaxseed), and at the same time some gargle (a saturated solution chlor. potash, or solution of bicarb. soda, etc.) used has a very beneficial effect upon the pharyngeal symptom.

As for constitutional treatment, all the different organs should, as far as possible, perform their functions—skin, kidney, bowels, etc., and they need our careful attention. Good hygienic surroundings, avoidance of drafts, etc., are of the utmost importance. Stimulating foods should not be allowed, but plenty of a nourishing charac-

ter. Tonics, but no stimulants in acute stages.

As to the results of acute catarrhal otitis media, it may go on, as has been stated, to the suppurative form, and this will be considered further on.

Hearing is often impaired from collections of mucous or other products of inflammatory action in tympanic cavity; this can be relieved. Auchylisis of the ossicles, a chronic thickened drum head, as well as the memb. secundaria, permanent closure of eustachian tube, etc., are a few of the results with the consequent impairment of hearing. The treatment then is quite different, and to consider it in this paper would consume too much valuable time of this society.

As to *suppurative otitis media*.—In the great majority of cases, as has been shown, it is the direct result of acute catarrhal otitis media. Blows upon the side of the head rupturing the M. T. sometimes cause it. The use of the nasal douche and post nasal syringe are frequent causes.

It happens quite often in the course of some one of the exanthemata, especially scarlatina, that a complication of the ear arises, and from its very start stamps itself as one of acute purulent otitis, rapidly breaking down the tissues.

The subjective symptoms, are those of acute catarrh, but much more aggravated, and rapidly developing themselves. Fever, great throbbing in side of head and neck, intense and continuous pain, tenderness all around the auricle, vertigo, tinnitus, and in some cases delirium.

As for *objective symptoms*, the characteristic one is the discharge from the ear. If the M. T. is seen before the rupture takes place there is deep injection of vessels along the handle of the malleus and periphery of M. The membrane itself is prominent, and of a pinkish, sodden hue, the malleus hard to define, and no cone of light to be seen.

As a typical case of purulent otitis media

acute, I will mention one that occurred just recently in the practice of my father, viz: "May 20, 1887, G. S., age twenty-one, machinist, brought by his family physician, Dr. C. N. Rooker, says about one month ago his left ear ruptured during the course of an attack of scarlatina. Examination reveals left M. T. entirely lost, copious discharge, and great pain. Tender over and around the tragus. Some pain in manipulating the auricle. At this time no trouble with mastoid. Hearing d. u. left nil. and right 6". Order saline cathartic, leeches. Hot fomentation to keep up the bleeding, cocaine, and morphia. He then seemed to improve for the time being.

"June 4th—Still inflamed, discharge still copious, pain not nearly so severe, mastoid seemed a little irritable but not inflamed.

"July 10th—Still discharge; now deep-seated pain; tissues over the mastoid very doughy but not very red (very much like an erysipalitous blush).

"The tissues over the mastoid were incised to the bone, and the drill sent into the cells. Pus was obtained."

In this case it will be seen that no cerebral symptoms were present except occasional vertigo, no constitutional disturbance to speak of, very slight fever; yet two months from his first visit it is deemed advisable to open the cells, with the result as before mentioned. Now we confidently expect an immediate improvement in this case.

As I have said before, we can not watch the mastoid cells too carefully in these cases. Meningitis is a grave complication, and in some cases quickly follows the invasion of the cells. However, for meningitis to develop it is not necessary for the cells to be simply involved, as it may come from a perforation in the roof of the tympanum, or from extension along the coats of the vessels, or by extension along the sheaths of the different branches of the acoustic nerve, from a contiguous inflammation in the labyrinth.

From what has been said it is easy to draw our conclusions as to the form of disease we are dealing with; it requires very energetic treatment. What has been said concerning the treatment of acute catarrhal inflammation applies here: saline cathartic, rest, leeches. Remedies controlling fever, and those that will produce rest, as bromides, chloral, aconite (alcoholic ext.), etc., are useful.

Before a rupture has taken place carefully syringing or douching the ear with luke warm water every half hour is very soothing. Early paracentesis of M. T. should be practiced as soon as there is an apparent bulging of M. T. After a rupture or paracentesis has been made then carefully syringe out the ext. aud. canal twice a day with hot water is often enough; it keeps the canal clear, prevents adhesion of the membrane to the promintory, etc. In the use of astringents they are usually not necessary in the very acute stage (later on they are very efficient); generally the syringing of the ear with hot water is enough. When we use astringents then boracic acid (imp. powder), albumen, essical, resercine, and tannin are very effective. But some cases are not improved at all by the dry treatment; then we have to resort to astringent solutions, as zinc sulph., cupric sulph., alcohol, etc. To the edges of the wound after suppuration has ceased, silver nit., etc., to promote healing.

Before any medication is applied the parts should be gently but thoroughly cleansed, so that the drug will come in contact with the diseased surface, otherwise they do not accomplish any thing. Most careful attention to the pharynx and general system as in acute catarrhal inflammation must be enjoined.

In conclusion.—The treatment of acute catarrhal and suppurative otitis media is comparatively simple; an accurate diagnosis and just appreciation of the conditions existing, with the careful use of a few judicious remedies at our command, usually bring such cases to a favorable termination.

Yet we all know the dire results that sometimes follow a fatal meningitis: mastoid abscess, necrosis and sequestra, total loss of M. T. and ossicles, ch. suppurative, granulative tumors, total deafness, etc. But to consider these complications and the treatment of them would exhaust the patience of my hearers.

A CLINICAL STUDY OF PURULENT OPHTHALMIA.

BY
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Prepared for the Mississippi
Valley Medical Association,
and read by title
at Crab Orchard
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Having studied a large number of samples of pus in suppurative conjunctivitis, I became interested a year ago in some experiments designed to test the value of different methods of treatment of conjunctivitis. These experiments were conducted

pari passu by artificial cultures of micro-organisms in conjunctival pus and the course of the inflammation in the eyes of ten persons, seven of them inmates of an orphan asylum and three in private practice, all of them occurring about the same time. The cases were isolated and the treatment faithfully carried out.

C. D., forty-eight hours old, I saw with Dr. Dudley S. Reynolds on the 9th of October, 1886. A quantity of pus was taken from the right eye, which was the one worst affected, the lids being swollen, the conjunctiva chemosed, and an abundant flow of thick yellow pus from between the lids of both eyes. The borate of sodium, five grains; pure carbolic acid, one drop; distilled water, one ounce, were ordered to be instilled every fifteen minutes between the lids. An ointment of fifteen grains of boric acid to half an ounce of petrolatum was directed to be smeared upon the eyelash after each application of the collyrium. Twenty-four hours later the swelling had almost entirely disappeared from the lids, there was but little discharge of pus, and the patient was greatly improved. Forty hours more

elapsed, and there was no swelling, no discharge of pus, the eyes opened naturally. Samples of the matter were rich in the gonococcus of Neisser.

Half an hour after my first visit to this patient a man came into the office with a grain of emory imbedded in the cornea. I instilled a solution of cocaine and removed the emory. Next morning he came with suppuration of the cornea. The collyrium of borax and carbolic acid was ordered to be used every hour. He made no improvement. The next day the point of suppuration in the cornea was touched with the end of a silver probe previously dipped in pure carbolic acid. Twenty-four hours later the patient was convalescent.

M. V., mulatto, eight years of age, brought to the Hospital College clinic with purulent conjunctivitis in the right eye. The collyrium of borax and carbolic acid being ordered every half hour, the patient was directed to report the next day; but failing to do so, I visited her in the afternoon, and found the other eye affected. I prescribed one grain of corrosive sublimate, six grains of muriate of ammonia, and eight ounces of distilled water. With this I cleansed the conjunctival sacs of both eyes thoroughly, and directed the application to be repeated every half hour. In two days this patient was convalescent. Four days afterward reinoculation occurred and a violent relapse, more severe than the first attack. Continued use of the bichloride solution brought on complete recovery.

J. H., a young man twenty-two years of age, had suffered with gonorrhea for the past six weeks, when suddenly the left eye became inflamed. October 29th he appeared at the office with the left eye closed from swollen lids and a profuse discharge of pus. The lower half of the cornea was gray, and it was considered in imminent danger of sloughing. The bichloride of mercury solution, one grain to four ounces of water with sufficient amount of muriate of ammonia to make a solution, was ordered to be

instilled every hour. He was directed to employ a nurse to sit up all night with him and to continue the treatment. In five days he was convalescent.

The cases at the orphan asylum were treated in a precisely similar manner, each using the corrosive sublimate solution, varying in strength from one grain to eight ounces of water, to a grain in twelve ounces, the frequency of the application and the strength of the solution being proportioned to the severity of the attack. I know of two cases in which ulceration of the cornea had already commenced, yet in neither did it fail to yield to the bichloride of mercury solution except where a strongly marked circumscribed suppuration existed, and then pure carbolic acid was applied by dipping a silver probe into the acid and pressing it to the bottom of the ulcer.

These observations, though not entirely new, are in some respects unusual. I present them with a view of suggesting the importance of relying upon the remedies named rather than severe caustic applications in the treatment of the different forms of purulent conjunctivitis with and without corneal complications.

<p>YELLOW OXIDE OF MERCURY IN NASO- PHARYNGITIS.</p>	<p>In certain lymphatic subjects with chronic naso-pharyngitis, accompanied by extensive exudations of lymph, the yellow oxide of mercury is of great service. A saturated solution of borax should first be sprayed through the nostrils. Following this a solution made this way: First, a saturated solution of tannin in listerine; of this half a drachm should be added to one ounce of distilled water, and sprayed into the nostrils. Using alternately the borax spray and the tannin the work of cleansing is soon completed, after which the following powder should be used by cautious insufflation: Yellow oxide of mercury, ten grains; powdered acacia, half an ounce. Mix well.</p>
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OBSTETRICS AND GYNÆCOLOGY.

FIBROID TUMORS
OF THE UTERUS.

BY

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[*British Medical Journal.*]

The comparatively speedy results obtained by the use of the pole of the battery in the case of hemorrhagic fibroids is very striking. When we see a woman who, in months or years of

suffering, has passed through the stages of depression, debility and exhaustion, till at last she lies down in her bed helpless and in despair, rise up after a few applications with her pains soothed, her bleeding stayed, her countenance brightening, her appetite returning, and the dawn of a new life opening upon her, one is apt to think that medical science has justified itself. Yet it has not by this feat reached the end of its powers; it can respond even to further demands. The woman has still her burden upon her. The surgeon may have recourse to his knife and take it away. But at what risk? Such a risk that only despair will nerve him to face it, or make the patient submit to it. Those only who have long felt the crushing responsibility of cutting operations, and have had sufficient experience to gain the conviction that a known percentage of recoveries is hardly enough to counterbalance the pains and perils of forlorn-hope surgery, can fully luxuriate in the sensation of relief given by the prospect of being able to control the growth of these tumors and render them harmless by a scathless process. This is for the future to be the work of the negative pole of the battery. And that is not all. Before advancing far with the patient-taxing proceedings against the *corpus delicti*, we have the satisfaction to find the earlier steps lead to such a modification of a certain class of symptoms, and such a change of health-conditions as to make the question of time of but secondary importance. With loss of pain and ease of mind, a woman may wait

calmly for the restoration of the symmetry of her body.

The second group of fibromas is that in which the leading troubles are those of difficult or suspended menstruation. In some cases the displacement of the uterus is so considerable that no entrance into the cavity can be obtained for cauterization, and the alternative of puncture has to be adopted. The character of the tumor varies. It is sometimes a mere mural thickening, complicated with inflammatory deposits around. In other women there are subperitoneal accumulations and protuberances, or large pedunculated outgrowths. Accompanying them are all the usual functional disorders and nervous irregularities, which take away the enjoyment of life and even make it a burden. But, as the most notable distress arises from the periodical pain, the scanty or unnatural discharge, and the local uneasiness which is always present, we begin with attempting to ease that.

Faradization of the uterus may be of use as a palliative remedy, but generally recourse is had at once to negative galvanocauterization, of more or less force, and at intervals more or less long, as the patient bears the treatment, and according to the change that takes place. The periods soon become more regular, the intermediate time is less disturbed, the general health improves, and the local distress is not so urgent. Such an amelioration is a great point gained, but we must not stop there. As more has to be done in regard to the riddance of the tumor, the useful but slow-working intra-uterine cauterizations are superseded by the negative galvanopunctures. As Althaus has said, "No animal tissue whatever can resist the disintegrating effect of the negative pole; and the force and rapidity with which the disintegration is brought about are directly proportional to the electro-motive force which is employed, and to the softness and vascularity of the structures acted upon." This action of the negative pole is a double one.

The negative electrolytic decomposition of animal substance or liquid give rise to an evolution of bubbles of hydrogen, which mechanically affect the tissues near the pole by insinuating themselves between the structural elements and driving their fibres asunder. This is a point established by microscopical observation. The second effect is a chemical one—that of the alkalis. These, soda, potash, lime, with the hydrogen, are liberated by the decomposition of the animal matter, and go to the negative pole. The metal remains untouched by them, so that they are all free to act upon the adjacent parts in the manner of potential caustics. An eschar is formed, suppuration takes place, and sometimes a considerable discharge continues.

Such are the notable effects produced at the seat of puncture by the negative pole, and it is this only which in these cases is used therapeutically. Cauterizing action, which would be as powerful at the point of exit of the current at the cutaneous pole, if it issued as dense as it went in, is not wanted. It is, therefore, guarded against by disseminating the current through the intervention of the wet clay. But the main factor in determining a diminution in the size of the tumor is the repeated action of the intense current of electricity which is made to traverse the interpolar tissues. Whatever explanation may be given, the fact is that nutrition is interfered with, the vessels shrink, the form alters, the substance contracts, and the tumor remains smaller to an extent which renders its presence of but little importance. It still exists, but without any disposition to throw out new offshoots or to resume its former power of expansion.

The operator must be guided in his choice of the part in which to make the puncture by the form and situation of the tumor, or by the condition in which he finds the prominent part of the uterus. If it can be done conveniently, the punctures are best arranged on and about the neck of the

uterus; if the neck be obliterated, in a series round the orifice; or where the displacement of the organ only leaves the option of a projecting part of the tumor, then they may penetrate the tumor itself through the expanded vaginal wall. I have mentioned the precautions necessary, and have only to add that the length of puncture used at the present time is much less than it was at first. Rarely is it now found of advantage to leave exposed out of the sheath more than two centimetres of the trocar. This shallow puncturing lessens in a great measure the chance of wounding vessels or passing through the peritoneum. Even when it so happens that, on withdrawing the instrument, there is a flow of blood, it can be at once restrained by introducing a speculum and putting the parts on the stretch, or picking up the bleeding point with a pair of pressure-forceps. Generally the oozing, if there be any, is very trifling and stops spontaneously, and a moderate depletion of this kind is only beneficial.

The cases, of which I give very condensed notes, show what may be expected from the treatment by negative galvanopunctures.

CASE I.—Madame P., aged forty-six. Natural pregnancy at nineteen. When thirty first signs of abdominal tumor. As the abdomen distended the health declined. Surgeons consulted declared the tumor to be a uterine fibroid, but declined to operate. Gradually grew worse, with all the phenomena of compression; functions disturbed; difficult menstruation, and pronounced cachexia; disabled. Came to *clinique* June, 1883. Fibrous tumor of uterus attached, not in any way movable, touching at its upper end the sternum, filling the belly and the pelvic basin. Abdominal measurement in line of umbilicus 110 centimetres. Neck of uterus raised up behind pubes and inaccessible to the sound. Puncture inevitable. After three negative galvanopunctures, three centimetres, seventy milliamperes for eight minutes each, the neck of the uterus

descended, so that between July, 1883, and July, 1884, twenty-nine galvano-cauterizations, negative, intra-uterine, were possible, and a large and rapid diminution of the tumor took place. Measurement at one time showed a decrease of sixteen centimetres round the abdomen, but the deposition of subcutaneous fat soon brought it up to the point first noted. The tumor became pedunculated and movable, menstruation regular, and the woman was able, while undergoing treatment, to resume her work with ease.

From July, 1884, to December, 1885, thirty-eight negative galvano-caustic applications, intra-uterine, completed the treatment. The tumor went on lessening, all symptoms of pressure disappeared, and the general health was as good as when she was young.

In November, 1886, the tumor was quite free, with its upper border a hand's breadth below the point of the sternum. Menstruation ceased in September, 1885, and she gained weight.

June, 1887, lives as a woman in health, and if we may estimate the reduction of the tumor as one third, the set off against the remaining bulk of the fibroid is the entire suppression of every symptomatic trouble.

CASE II.—Madame D., aged fifty-nine, mother of one child, came to *clinique* December, 1884. Had been ailing all her life. Menopause at fifty-three, when her health became worse, with bad abdominal symptoms caused by a tumor which rapidly formed at that time. Found to be a sub-peritoneal uterine fibroid, passing more than two inches above the umbilicus, fixed, bulging out the abdomen and blocking up the pelvis. The sound revealed excessive thinning of the anterior wall of the uterus, so that all intra-uterine interference was given up for fear of perforation.

Between January and November, 1885, fifteen negative galvano-punctures, one centimetre, were made with a current of from 80 to 100 milliamperes, five minutes. The

neck of the uterus being turned up to the left, the punctures were directed into the projecting part of the tumor through the central part of the posterior vaginal wall. No chloroform. Some hysterical and gastric symptoms, which gave way to bipolar galvanization of the pneumogastrics. During the first half year there was a rapid regression of the tumor with corresponding amelioration of the health. She weighed five pounds more, and had a considerable accumulation of abdominal fat. The size afterwards went on lessening till, in December, when all treatment was suspended, the upper part of the tumor had become so movable that it seemed to be attached to the uterus only by a peduncle, and could be pushed, without causing pain, from one side of the abdomen to the other. When at rest the upper margin was more than two inches below the umbilicus, though the whole of the isolated mass could be raised above it. The pelvic section of the tumor was also so much smaller as to leave the uterus disengaged, and to permit the vagina to resume its natural form. Uterine measurement, which was at the first sitting nine centimetres and a half, had shortened to six centimetres, and the thickness of the uterine wall was more uniform.

She remained in good health through 1886. Some narrowing of the cervical canal prevented any introduction of the sound, but caused no inconvenience. A continued contraction of the tumor was manifest. At the present time (June, 1887,) she is quite well, still fatter, and has no abdominal deformity, except that owing to the adipose tissue.

CASE III.—Madame R., aged fifty-three, good constitution, no serious disease, mother of five children. Menstruation always natural, till in 1882 she was seized with sudden and violent hemmorrhagia. This lasted three years, during which a painful abdominal tumor gradually reached a large size, with derangement of all the organic functions, and loss of strength and flesh. Treat-

ment with ergot did no good. Diagnosis, September, 1885: Interstitial and subperitoneal fibroma of uterus, rising above the umbilicus, distending the abdomen, and on a level with the upper rim of the pubes, inaccessible to the finger. No introduction of sound being possible, negative galvano-punctures were commenced.

From the beginning of September to the end of December, 1885, sixteen punctures, one to five centimetres, with current of from 150 to 200 milliamperes, five minutes, through the vagina. On October 10th, after the fourth puncture, there was total cessation of hemorrhage. Amendment of health began, and the tumor had so much reduced that, in December, the neck of the uterus had descended, and the sound could be introduced; showing a measurement of nine centimetres and a half. There was an unavoidable cessation of treatment. It began again in April, 1886, and between that date and the end of July two more punctures were made, and the effect completed by sixteen intra-uterine galvano-cauterizations. After this time nothing more was done. Natural menstruation appeared for the last time on August 10th, lasting four days without pain. At the end of 1886 she was healthy, growing fatter, carrying the remains of her tumor without cause for complaint, and regularly doing her work of *concierge*. In June, 1887, she called to report herself quite well. Her own words were: "Je me porte aujourd'hui aussi bien, en tous points, qu'il y a cinq ans, et sauf la présence du reste de ma tumeur, qui ne m'incommode plus en aucune manière, je me déclare en parfaite santé."

Dr. Apostoli has so recently explained his views as to the application of this mode of treatment to the many forms of chronic metritis, by which women are often as much disabled as by distinct tumors, that I need not repeat his observations. I may only remark that the subject is, perhaps, of even more importance, seeing that the condition is more common, and may generally be re-

garded as the starting point of definite abnormal formations.

But there is another matter associated with this question of electrical treatment that has long weighed upon my mind; and now, with this opportunity before me, I can not pass it by without a word that may especially interest ovariologists. I have been as much concerned with ovariectomy as most men, and always, when standing beside the operating table, have had the humiliating feeling which one must be conscious of when grubbing up weeds in a neglected garden. We all know what is the wretched state of a woman with a fully developed ovarian tumor, no matter of what kind. Fortunately, scientific skill has freed the delivering operation of many of its terrors. But the most brilliant performances of our operators only serve to throw a shadow of reproach over the pathological side of the ovarian question. Hanging criminals wholesale never was the means of ridding us of crime. Every good delivery only made place for fresh committals, and mounted up the statistics of social scandal. To strike at the vicious germ of the evil by moral training and education was more efficacious in staying the pest than the utmost perfecting of the art of hanging. Why should we not see a similar sanitary reformation among ovariologists? Instead of exhausting their ingenuity in discussing the qualities of ligatures, the merits of various knots, and the advantages of the long peritoneal drop over the external strangulation of the pedicle, just as the sheriff's deputy puzzles himself about the length of his cord and the best way of noosing the necks of his human excrescences, when will they turn more ovariological, and take to the work of seeking out how to repress the proliferous tendencies of the nascent crop of ovarian cysts? It is a task that must be done, and will be done by some one who is duly impressed with a sense of professional responsibility. Is there a gleam of hope in what has been observed in the midst of these

electrical uterine operations? Some few times it has happened that an incipient ovarian tumor has been recognized.

The cauterizations or punctures have been made, and the cyst has disappeared. Taking this as a fact, does it not open out a line of experimental investigation worth following up? It requires the disposition, the opportunity, and the devotion of time. Men harassed by the demands of actual practice can not undertake it, but surely there must be some who, in their waiting time, are on the look out for the way of making themselves men of repute. They might profitably gird themselves up to the speculation of projecting in an almost untouched corner of preventive medicine.

Hie patet ingeniis campus.

The following is a summary of the notes of one of the cases to which I have alluded.

Madame G., aged twenty-eight, good health, married at nineteen, never pregnant, constant leucorrhea; regular menstruation, short and scanty, becoming more abundant after marriage. On examination, uterus found nearly natural, vagina sensitive, nothing wrong on left side, but on right side, in the situation of the ovary, a tumor was easily distinguished, hemispherical, having the feel of a somewhat solid cyst, not very tender under pressure, and easily recognized by its form, situation, consistence, and want of sensibility as an incipient ovarian tumor.

After consultation a vaginal negative galvano-puncture was made to the depth of one centimetre, and a current of 100 milliamperes passed for five minutes. No chloroform was used, and the patient bore what was done without complaint. The sensation to the operator was that of tapping a cyst with fluid. No fluid, however, escaped by the vagina. The patient was a little nervous in the evening, and had some rectal tenesmus, but slept well, and went home at the end of twenty-four hours' rest.

On examination five days afterwards no tumor could be found, and there was no tenderness. It is now nearly two years

since the operation was performed. The woman has remained in her usual health, is somewhat stouter, and keeps constantly at her work. At the present time (June, 1887,) there was no trace of a cyst on the right side, but the ovary can be detected on lowering the uterus. On the left side a small tumor about the size of a chestnut, with all the characters of an ovarian cyst, has made its appearance. A little projection on the right vaginal wall marks the spot where the puncture was made.

Finally, and as the result of eight months' incessant observation, and of my own experience in the treatment of cases in conjunction with Dr. Apostoli, I can unhesitatingly assure those who are interested in the question, operators or operatees, that the conclusions at which I arrived at an early period of my investigations as to the value of the therapeutic influence of electricity in cases of uterine fibroids, used after the manner I have described, with a view to introduce it to the notice of English surgeons, are more than confirmed by my longer acquaintance with the subject. It is also worth mentioning that they have met with the assent of all, including such authorities as Sir Spencer Wells, Keith, and Dr. Playfair, who have been induced by what I have written to visit the *clinique*, and examine the evidence for themselves. Some, indeed, have at once resolved to adopt the practice, and others, who are not disposed to undertake a task which requires so much quiet perseverance and familiarity with technical details, have confided their patients to our care. These cases I shall hereafter publish, when time has proved that the benefits received are as permanent as those recorded of his own patients by Dr. Apostoli.

LEMBERT'S SUTURE.	The Lembert suture, employed in operations for the cure of vesico-vaginal fistula, insures the greatest chance of success by a more complete closure of the vesical walls.
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RUPTURE OF THE CORD DURING LABOR.

BY P. BUDIN.

Translated from *le Progress Medical*, by
M. K. J. ROHRER, M. D.

Authors generally formerly thought, and many doctors to-day think that the umbilical cord possesses a great force of resistance, but clinical facts

and experimental researches have shown that this force of resistance is far from being as considerable as was formerly believed. We can not enumerate the cases of parturient women, standing and sitting, in which the funiculus has been ruptured. Klein has collected a certain number of cases, and more recently Winckel has published a batch of forty-two cases of hurried delivery with rupture of the spinal cord. His facts were collected at the Maternity Hospital of Dresden. Moreover, hemorrhages are rare after rupture of the cord, unless caused by other circumstances, for example, an obstacle to the respiration of the new born.

Recently we have had occasion to observe some cases of this kind. In one instance the patient was in a carriage and repairing to the Charity Hospital, the child fell, and the cord broke. In the other, the woman was standing near the bed, and being sensible that she was about to be delivered, she inclined herself forward and attempted to receive the product of conception in her two hands, but it slipped, and there was rupture of the cord. The mother wrapped the new born in a shawl, descended, took a carriage and went to a hospital. Neither of the children had hemorrhage by the cord.

A certain number of authors, Aegrier, Sparth, Pfannkuck, and Schatz, have made experiments in order to study the amount of force necessary to cause the rupture of the umbilical cord, and the conditions which favor its rupture. From their researches it is found that the cord can be broken under the action of a suddenly developed force less than that represented by the weight of

the cord. The cord tears more easily if it presented numerous spirals, because, by following the curves the force of traction is not simultaneously carried to all parts of the cord; the amnion which occupies the concavity of a curve tears first, then the two arteries, and finally the umbilical vein. The cord of the living foetus does not offer as much resistance as the empty and flabby cord on which experiments are made some time after delivery.

If the confined woman is not found standing, but lies on the bed, if, therefore, the weight of the child does not enter the consideration, can it be that the uterine contraction, together with the expulsive effort, are sufficient to bring about rupture of the funiculus? This rupture has been noted in cases of absolute or relative shortness of the cord.

Neagele and Divilliers have reported examples of incomplete rupture, Rigby and Sparth cases of complete rupture.

But if the cord is not short, if there is no obstacle to the exit of the foetus, no repeated pulling and hauling upon this cord, may the rupture yet take place? The solution of this question has a certain importance from a medico-legal point of view. A woman having been delivered on her bed, we may have to ask whether the cord was spontaneously broken, or if the rupture is unfortunately the consequence of traction exercised by the mother herself.

The facts published so far on this subject are extremely scarce. Sparth has reported one, but the child was dead and mortified.

Observation.—N., primipara, aged twenty-six; breech presentation. There being resistance of the uterine orifice and insufficiency of the penis, and so slow dilatation, a sitting bath was given her. The period of expulsion lasted but half an hour. As the seat of the woman was so low the midwife wished to place a cushion under the sacrum in order to elevate the basin; during these manœuvres a very great contraction occurred, and the child was thrown fifty

centimetres from the genital organs. The thick cord, gelatinous and friable, broke; it was but thirty centimetres long. The child was nine lunar months of age, and was macerated.

In a case published by L. E. Dupuy, the foetus was living.

Observation.—Name, N. C., aged twenty-five; day laborer; secondiparous; entered October 23, 1873, Maternity Hospital of Cochín, during the service of M. Polaillon.

As a peculiarity of her last confinement, she related in a clear manner that the cord was three times around the neck of the child. She was at term. Pains began at 9 o'clock in the evening. At midnight dilatation was complete and the waters ruptured. Vertex presentation, fourth position. At this time contractions became energetic, very much closer together, and the head appeared at the vulva. After the disengagement of the vertex there occurred a very short period of arrest in the expulsive effort, and the midwife ascertained that the cord was twice around the neck of the foetus. She attempted to pass her fingers under the first circle in order to cut it immediately with the scissors, when a very energetic contraction suddenly caused the complete expulsion of the foetus. The child was living and well formed, but on a level with the umbilicus was seen a considerable jet of blood. Here is the cause of this hemorrhage: The cord had been pulled off close to the umbilicus in such fashion that the gelatinous part no longer existed, the sheath alone persisting, in some places under form of little indented shreds. Called by the midwife I hastened to compress between two fingers the persistent parts of the cord, and I compassed them in a ligature. In a few instants I was master of the bloody issue which did not recur.

The child was very pale and bloodless, and had lost 190 grammes of blood.

Its weight was 3,130 grammes; the cord sixty centimetres long; the cord was not thin; its consistency was about normal.

October 24, the appearance of the child had improved. It weighed 3,120 grammes. Immediately upon the retraction of the umbilical ring, the ligature was strongly drawn in. It fell off at the end of the third day, and the child was completely well.

To these facts, which appear truly exceptional, we shall add two cases which occurred during our service at the Charity Hospital. Our entry was gathered in the month of August last by the assistant midwife of the service, who herself made the delivery; the other was a delivery made by our interne, M. Courbarien, under whose eyes the rupture of the cord occurred. We would not report these last observations which have been minutely taken, but that they are of interest relative to the rupture of the cord.

Observation 1.—Name, H., woman L., entered the Charity August 15, 1:30 A. M.; aged twenty-nine. Had had a child at term, ordinarily well formed. She lost at period rather abundantly for three days. Her last regular dated November 27 and 29, 1885, the time at which she became pregnant. She had gone eight months and one week. Painful contractions came on August 14, at 11 P. M., and decided her to come to the hospital. Upon her arrival we made out a vertex presentation, back to the left, and breech to the fundus of the uterus. The foetal heart sounds were clearly perceptible. Rupture of the membranes occurred spontaneously at 3:40. At 3:45 we made an examination, and found complete dilatation, and the vertex in first position. The woman bore down and the head appeared at the vulva and rapidly disengaged itself. Against advice the woman continued to strain; the head presently turned, a contraction violently expelled the foetus and the cord ten centimetres from the umbilical insertion; two jets of blood appeared—one from the placental extremity. We immediately seized this last extremity and made a ligature. At the moment of the birth of the legs we perceived that the cord had wound about one of the thighs of the child.

The newborn breathed well, and after a time began to cry. It was pale, and weighed 3,000 grammes. The labor lasted four hours and fifty minutes.

Delivery was completed naturally at 4:10, twenty minutes after the expulsion of the child. The placenta weighed 470 grammes. The cord measured 42 centimetres, comprising the foetal extremity.

The rest of the lying-in conditions were normal. The mother and child left August 24, in good condition.

Observation 2.—Name, Mary P., aged twenty-seven, primipara, entered the lying-in hall of Charity Hospital, December 13, at 8 P. M. She had her last period between April 1st and 5th, and she felt motion August 13. She had been pregnant a little over eight months. The head presented O. I. G. A. Within thirty minutes dilatation was complete, the membranes were artificially ruptured; a quantity of lemon-colored amniomic fluid escaped, and the head descended in the excavation under the influence of uterine contractions and efforts of the woman. The head moved more and more, rotation was accomplished at the instant of its arrival on the floor of the basin, the occiput was under the symphysis; then the head deflected and became rapidly disengaged. We permitted it to execute spontaneously the movement of external rotation, the head turned itself slowly, and the occiput placed itself to the left, whilst the anterior shoulder placed itself under the symphysis. We disengaged the posterior part, and soon after this effort the body of the child was violently expelled: it was, so to speak, projected into the arms of the mother. The cord, which measured thirty-eight centimetres, was so suddenly distended that it broke immediately; this rupture accompanying a slight spasm, we made the ligature presently. The child was a girl, and weighed 2,565 grammes; it was pale, but it soon cried and breathed. The rupture of the cord occurred at a point somewhat thin in the foetal end, the surface

of the rupture being cut obliquely and sloping. Three vessels were ruptured at the same height. Placed openly in a space of one centimetre, they approached the fringed extremity constituted by the amniotic sheath; there was no hemorrhage of an appreciable quantity by the umbilical arteries, which continued to throb after the ligature was made.

The foetal end measured seven centimetres. Delivery was complete December 30, with slight traction on the cord; the placenta in great part was in the vagina, and it weighed 490 grammes; the membranes were entire.

The rest of the lying-in conditions were normal. The mother and child left in good condition January 9, 1887.

Thus, then, in these two cases, although there was neither relative nor absolute shortness of the cord, and although the funiculus was not particularly thin, it broke under the influence of uterine contraction and effort, and the body of the child was shot as an arrow, so to speak, out of doors.

The extreme rarity of these cases, and interest which they present from a medico-legal stand-point, determined us to publish them.

<p>LISTERINE IN CHOLERA INFANTUM.</p>	<p>The value of listerine in those digestive disorders of childhood, which lead to what is commonly called cholera infantum, can scarcely be over-rated. A teaspoonful of listerine administered per orem has been known to dissipate the most alarming symptoms, cutting short the attack and apparently saving life. A good way is to begin something like this: Calomel and chlorate of potash each one grain, to be rubbed well together, and to be divided into ten powders; one to be given every five minutes until vomiting ceases, and the nature of the stools have been changed. Then commence and give teaspoonful doses of listerine every four hours until convalescence.</p>
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PATHOLOGY AND HYGIENE.

RAYNAUD'S
DISEASE,
KAPOSI'S

DISEASE, ETC.

BY

JONATHAN HUTCHIN-
SON, F. R. C. S.,
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gery at the London Hos-
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When we have pronounced the words "Raynaud's disease," what is that we have accomplished? What are the phenomena which, newly described by that excellent observer, have since been associated, very properly, with his name? Did he discover a new

cause of diseased action, one which always and in all persons is potent to stamp its peculiarity on the effects which follow, as we witness them for instance in the case of syphilis; or was it rather that he described certain appearances due to a conjunction of causes, which may vary in proportion in different cases, and which for that reason are seldom exactly alike in any two? The latter rather than the former was Raynaud's achievement. He seized upon certain results of what we may style functional disturbance of the circulation, which are, in their slighter forms, common enough, but which, in exaggerated instances, assume very peculiar features. It had long been known that exposure to cold would produce blueness of the extremities in some persons, and that in others the fingers might die, that is, become white and tallowy. To Raynaud we owe the observation that these conditions may in some cases advance to a point which involves danger to the integrity of the parts, and may result in symmetrical gangrene of the tips of the digits. The conditions differ from those of frost-bite chiefly in that they are due rather to peculiarities in the individual than to the severity of the exposure. Very often there has been no extreme chilling, and cases may even be observed when there has been no frost.

If any one imagines that Raynaud's disease is a rare malady, complete in itself, always the same, *sui generis*, a morbid entity

—to use current but as a rule very objectionable expressions—he is far indeed from the truth. It is a condition which admits of infinitely varying degrees of severity, and to which many thousands of persons are liable in its slighter forms. I have said that there is a difference between this disease and frost-bite, and may now add that it is far from being identical with chilblain, though without doubt all these affections, or rather liabilities, belong to the same group, and have more affinities than differences. Those prone to Raynaud's phenomena would, far more than others, be liable to suffer from frost-bite, if exposed to severe cold.

It becomes of great interest to determine what are the causes or antecedent conditions which bring about the phenomena in question. Clearly, in the first place, they are of nervous origin, and depend upon the influence which the sensory and vaso-motor nerves exert upon the local supply of blood. We must then recognize first inborn and inherited peculiarity in this respect. No two people are, perhaps, exactly alike as regards the ease with which vaso-motor disturbances may be produced. In some persons the *digitus mortuus* is induced by the slightest cause, such, for instance, as putting the hand into cold water, while in others no amount of exposure will cause it. Roughly speaking, we may conclude that chilblains result from inherited peculiarity of tissue as regards susceptibility to cold, and dead fingers from peculiarity of nerve function under similar influences. Yet there is no doubt that this vaso-motor nerve peculiarity may be to some extent local only, for only one finger may be liable to suffer. In addition to inherited peculiarity, we may rank as the causes of local asphyxia of the extremities (a synonym for Raynaud's disease) the influence of malaria, of exposure at some former time to severe cold, any exhausting disease, and, above all, the disturbances resulting from the sexual functions. As regards the latter, we may note that these conditions occur

neither in the very young nor the very old, and that the period at which the sexual function is most active is precisely that most prone to Raynaud's disease; and further, that it is often seen in hysterical and feeble persons who are injuriously influenced either by menstruation in the one sex or nocturnal emissions in the other. The efficiency of sexual intercourse and of menstruation in inducing subjective chilliness and cold extremities is well-known. Time does not allow me to go into any detail on these topics. They are obviously of great interest, and suffice to lift this disease out of the category of pathological curiosities, and place it far indeed from being a mere elaboration of the specialist.

I will next ask your interest to another difficult, but perhaps allied disease. Certain children who are born with the appearances of perfect health become liable in early childhood to have the parts irritated which are exposed to the air. The face, neck, upper extremities, and legs become first chapped and sore, then eczematous, then pigmented and covered with stigmata. These conditions, if well-marked, constitute what is known as Kaposi's disease, or xeroderma of Hebra.

I have yet to add that, as time goes on, much greater lengths in peculiarity of process are attained, and that the patient while yet a child may have large, bossy new growths on the nose, cheeks, and ears, which will run on into epithelial cancer. What a lesson in pathological possibilities have we here! A proclivity which is in the first instance simply a tissue unsoundness, involving extreme liability to chapped hands and face, may advance to a disease which entails most grievous disfigurement, and even destroys life. The wonder is, however, not yet complete, for it has been noted that if the family consist of several children, more than one invariably suffers. In fact, we have in Kaposi's disease the best instance which can be brought in proof of the reality of what are known as family diseases. The

recognition of family diseases involves the acceptance of the creed that it is possible for the union of two individuals in marriage, neither of whom have ever shown the disease in question, to produce offspring so constituted that not one, but several, shall show proclivity to tissue-changes of the most peculiar and remarkable kind. This is certainly one of the most noteworthy facts as regards heredity with which we are acquainted. In other domains of clinical observation, it receives illustrations in such maladies as retinitis pigmentosa, coloboma iridis, deaf-mutism, and color-blindness, while in dermatology ichthyosis almost offers a parallel to Kaposi's disease.

HERPES AND

MORPHEA.

I may certainly claim the whole subject of herpetic affections as one in which dermatology comes into very important relations with general medicine. Time was, and that not so very long ago, when we were content to know herpes zoster as a peculiar skin affection, showing itself only on one half of the trunk, and herpes labialis as a thing of no consequence, and but little interest. A large number of new facts have, however, been observed respecting them, and their importance as illustrations of morbid processes has become very great. We know, respecting zoster, that it may occur in the head, face, and limbs, as well as the trunk, but that it scarcely ever gets so far as the hands or feet; that it is arranged according to nerve-distribution, and is, indeed, probably a form of neuritis attended by an eruption, and not in any true sense a disease of the skin. We know also that it is invariably of limited duration, and gets well spontaneously, that it does not relapse, and that second attacks, even after very long intervals, are very rare. Although we know little or nothing as to its most common causes, we have noticed that it never happens to young children, and that it is frequently brought out by the medicinal use of arsenic. This last is a very remarkable and instructive fact, especially

when taken in conjunction with others to be mentioned. Long ago Christison noticed that in cases of poisoning by arsenic, curious forms of paralysis were prone to follow, and that the regions affected might be quite limited and on one side only. That a drug taken through the stomach into the blood should be capable of producing non-symmetrical forms of neuritis is certainly a problem well worth the consideration of the neurologist. Although, as just stated, zoster usually occurs but once in a life, and in its most typical forms never shows any tendency to recurrence, yet we fully recognize exceptional forms which recur over and over again with extreme frequency. Respecting herpes labialis and herpes of the genitals, we know that this liability to recurrence, instead of being exceptional, is the rule. Permit me here to make a remarkable therapeutic assertion; I venture it after careful and extensive observation. It is this, that in recurring cases the one remedy which will stop the tendency is arsenic. I know of no other, and I have the utmost confidence in this. It has been observed in what is called tobacco amblyopia, the form of partial amaurosis which occurs to smokers, that when recovered from the patient may resume smoking and never suffers again. It is so with the toxic shingles which is produced by arsenic.

You may go on with the arsenic and the herpes will still get well, and it will, so far as I have any facts, never occur again. Facts like these derive increased interest when placed in juxtaposition.

Thus, then, we know herpes as a disease presenting considerable differences as to its type, but being obviously in all cases a disease of the nervous system primarily. The so-called symptomatic herpes (that affecting the lips) is very commonly in direct relation to what is known as a rigor, and is often in its severity in correspondence with the rigor. It occurs after catheter-passing, in the early stages of ague, and pneumonia, in each of which cases, and many others, a rigor—that

is, an attack of vaso-motor spasm—is the important antecedent.

In yet further illustration of the interest of herpes and the doctrines respecting it for the general physician, I may mention the following points: There are cases of herpes of the mucous membranes, of the tongue, cheeks, palate, and pharynx, which may easily lead to mistakes in diagnosis. Herpes is especially prone to occur on the palate and pharynx after syphilis, and it is constantly mistaken by the patient for a return of his syphilitic throat. There are curious forms of herpes of the mouth, in which the vesicles recur so quickly that unless care be taken they may be supposed to be persistent, and thus the true nature of the malady may be missed. It is well-known that in herpes of the fifth nerve the eye may suffer. I believe that there are also cases of herpetic deafness, and other very curious ones, in which a malady of herpetic nature, but not well characterized, affects the ear repeatedly, and by degrees damages its functions. It is many years since I first suggested the possibility of there being such maladies as herpetic affections of the viscera. We know that it is essentially a disease of nerves and not of skin, and there is surely no *a priori* reason why the nerves of the lungs, liver, stomach, intestines, etc., should not occasionally suffer. That there is such a thing as herpetic pneumonia has, I believe, been recently argued by my friend Dr. Hughlings Jackson. If there be some cases in which single violent attacks of herpetic inflammation of viscera occur, like zoster, not improbably there are others of a slighter character, but very prone to recur, like herpes labialis, and, like the latter, to be prevented only by arsenic. I can not but think that the herpetic group of maladies is likely in the future to be widely extended, and that it is one which offers very important considerations for the practical physician.

Close to herpes, and in some respects much resembling it, we have the singular and very rare malady morphœa. Like

herpes, this affection of the skin is clearly distributed by nerves, but it presents as to this statement some exceptional phenomena. Like herpes it comes out suddenly, and without obvious cause; and, having come out, it shows no tendency to spread. It affects in many cases many regions at the same time, and in this respect it differs from herpes. There is also a generalized form, in which the whole surface is more or less affected, and of this we scarcely know the analogue in the case of herpes.

Like herpes, morphœa is not a disease restricted to the skin, for cellular tissue, muscles, and bones may all suffer together. When it happens to young persons who are still growing, it may lead to arrest of growth and dwarfing of the affected limb. The cases which have been named hemiatrophy of the face are nothing more than examples of the effects of morphœa occurring in early life. [Several portraits were shown here in illustration of statements.]

Now, morphœa is a neurosis just as definitely as is infantile paralysis, and possibly it is in real nature closely allied to it, the one being a primary affection of motor nerves, the other of the vaso-motor. It is a disease which the physician ought to study with the utmost attention, and which he is most unwise if he leaves to the dermatological specialist. The part of the latter ought indeed to be chiefly that of jackal to the lion.

ON THE PRACTICE
OF CLINICAL
ANALYSIS—
URTICARIA
PIGMENTOSA,
AND HEBRA'S
PRURIGO.

Among other most useful lessons which we may learn from the study of skin diseases is the habit of clinical analysis. It is a habit which, once acquired, will be found of much value in all departments of medi-

cal inquiry. Instead of accepting as sufficient a conventional name, given to a certain group of symptoms, as if it constituted a morbid entity, we ought surely, like the chemist, to be constantly on the alert to dis-

cover the primary elements of causation which go to make up what we call diseases. A little diligence in this direction will soon simplify matters, and show us that most of the maladies which have gained names in our nosological lists are really composite results, and that the elementary causes are but few in number.

One or two illustrations will suffice to show what I mean. Dermatologists recognize a disease of childhood, under the name of urticaria pigmentosa, in which the child's skin becomes covered by persistent wheals which are attended by a deep brown pigmentation. At one time this disorder, or rather this condition of skin, was honored by a yet more formidable name. Now, instead of detaching urticaria pigmentosa from all other disorders of the skin, the way we ought to look at it is, I believe, this: All children are liable to the formation of urticarious wheals when irritated, but some much more than others. In some, urticarious wheals once out persist much longer than in others. Some children are, by virtue of their complexion (red hair, brown eyes, much movable pigment, etc.), prone to tan much more easily than others. Some children inherit great susceptibility of skin, and are easily made to itch by woolen clothes, etc., and, finally, some children attract fleas in the most extraordinary manner.

Now if these several conditions meet together, urticaria pigmentosa in some degree is the result. There is no marvel about it; the wonder would be if it were not. A child attractive to fleas may chance to be also prone to urticaria, and has much movable pigment. Every bite becomes a wheal, and before the first have disappeared others are produced, until the skin is covered. The result is in most cases helped by much scratching and by the irritation of woolen clothing. I do not speak haphazard in this matter. In one case of well-marked urticaria pigmentosa I made it perfectly certain by personal observation that flea-bites caused the wheals, and in others I have felt almost

certain of it. I by no means wish to imply that they are the only local cause of irritation which may produce them, but it is always something equivalent.

The disease known as "Hebra's prurigo," or at Vienna as "prurigo," is one again which lends itself to the process of pathological analysis with great advantage. Instead of accepting this disease as one *sui generis*, and deserving a distinctive name, it is, I believe, a result which ensues from various causes of local irritation to the skin taking effect in a person of unusual susceptibility and deficient in self control. The subjects of it are always scratchers, and many others would become its victims if they had not will enough resolutely to abstain. It may follow varicella, or vaccinia, or an attack of ill-cured scabies or eczema, or it may result from the bites of lice or of fleas. The essential point is that having been started it shall be well kept up by scratching, and that the means of cure shall in the early stages be neglected. It is only incurable when it has been allowed to get firm hold and when the patient will not do his share. It is obvious that the analysis of causes which I have suggested is of the utmost use in affording a clue to treatment in the two diseases which I have just named.

Something of the nature of analysis may be employed for the elucidation of far more difficult problems than those which concern urticaria pigmentosa and Hebra's prurigo. In such maladies as lupus erythematosus, strange and peculiar as some of its phenomena appear, we have possibly to recognize as causal elements inherited peculiarity of skin, giving tendency to chilblains and chaps, combined with inherited tendency to tuberculosis. With a skin and a constitution thus predisposed, let some slight local injury be inflicted—a sun-blister on the nose, for instance—and a local process of disease is initiated from which, under the laws of infective spreading which we have just examined, all the rest of the curious phenom-

ena of the malady may be in turn developed.

THERAPEUTICS AND DRUG-POISONING.

Another topic which I desire to offer for your consideration is that of influence of drugs, both for good and for evil. I make bold to assert that in no class of maladies can we study therapeutics, and what we may call drug-poisoning, so easily and definitely as in diseases of the skin. The specific efficacy of arsenic for pemphigus, its invariable usefulness in psoriasis, its power of causing herpes zoster, and of preventing recurrent herpes of the genitals, are facts in illustration. Many similar ones might be quoted. I will mention in a little detail a single example which has just occurred to myself. I show you here a portrait of the hands of an elderly lady who suffered most severely from a peculiar form of dermatitis of the hands, feet, and scalp. Her case had resisted the careful treatment of more than one specialist; she had lost all her scalp-hair, and her hands were so much disabled that she could not use them even to feed herself. The disease of the skin was symmetrical, and it was attacking the corners of her mouth and eyes and her ears. Arsenic and other remedies had proved of no use, her health was failing, and I feared an aggressive and fatal malady. Guided by what we had observed as to the mode of cure in certain cases in which, in elderly persons, soreness of the mouth is found in company with peculiar skin eruptions, I at length prescribed for her a drug which is not in ordinary use for such purposes, and of which I certainly should never have otherwise thought. I do not wish to speak boastfully, so far as I am concerned, for it was almost a chance, but I do wish to applaud the specific powers of the drug, for it cured this curious and most threatening disease in the most definite manner. Under its influence the inflamed areas got well, the hair and the nails grew again, and the patient was restored to health without a drawback. The drug to which I refer was opium.

It was given in doses of fifteen minims of the liquor opii three times a day. Now we had long been taught that small doses of opium were very useful in certain chronic maladies, especially in the aged. Mr. Skey long ago praised it for ulcers of the leg, and Mr. Pollock has more recently written very strongly in its favor. But nowhere, I submit, could we find such definite proof of its powers as in such cases as that just quoted. In a disease of the skin we can see our enemy, and know precisely his character. We can, with a degree of accuracy scarcely possible in any other department of therapeutics, watch the battle between the drug and the disease, and note the nature of the victory.

I must say just a word or two as to drug-poisoning as illustrated by skin-eruptions. We are familiar with the rashes produced by the bromides and iodides, and have noted with great interest that they are modified, not so much by the dose given as by the idiosyncrasy of the patient receiving it. What a variety of eruptions do we see in direct and most unquestionable relation with one and the same cause, the difference being in the patient; how often also do we notice that a dose which has no influence on one man may cover another with eruption.

[A series of portraits were exhibited in illustration of these statements. One of them represented the condition of a man who died of iodide eruption, the cause not having been suspected, and the drug having been continued.]

I have alluded repeatedly to arsenic, and to the remarkable illustrations of drug-efficacy which it affords; but I have by no means exhausted all the facts respecting it that I should like to bring before you. My topic would be incomplete if I did not briefly advert to its power of producing peculiar affections of the nervous system; and, secondly, to its being occasionally the cause of a sort of psoriasis of the skin, and ultimately, if continued, of a peculiar form of cancer.

These are for the most part new observations, but I think that the evidence is already conclusive.

I produce for your inspection several drawings by Burgess, which accurately depict the state of the skin which was produced in a gentleman for whom we had prescribed arsenic in very large doses, in the hope of restraining the growth of a cancerous mass which was beyond the reach of operation. Until he took the arsenic he had a clear and healthy skin. The effect of the drug was to produce general dryness and earthy discoloration of the whole integument, with a psoriasis condition on the tips of his elbows, on his knuckles, and in his palms. That these conditions in his skin were really due to the arsenic was proved by their varying definitely with the dose. If, however, any doubt be felt on that point, let me adduce as further proof certain other drawings, which I now show. They carry the case still further, and prove that arsenic can even evoke cancer. The portraits are from two different patients, and they show exactly the same thing. In each case the patient had taken arsenic for several years for the cure of common psoriasis, etc., and the palms and soles had become hard and horny, ending in each by the growth of epithelial cancer. In one the cancerous ulcer developed almost symmetrically in the two palms, in the other it attacked the sole of the foot. In all these facts we have cumulative proof of the power which arsenic possesses in both controlling and disturbing the nutrition of the skin. It may either cause or cure disease, according to the state of the patient for whom it is prescribed. In passing, let me remark that it is probable that its influence is by no means limited to the skin. I believe, although it is very difficult to give categorical proof, that it possesses definite influence over the growth of cancerous tumors, tending in many cases to restrain it.

The influence of arsenic upon the nervous system has already been referred to in

speaking of herpes, and I then mentioned Christison's facts as to its being a cause of epilepsy, and of local forms of paralysis when taken in poisonous doses (by accident or with the intention of suicide). I have now to add the expression of my conviction that we sometimes induce epilepsy and other nervous symptoms by the medicinal employment of this drug, and that it behooves the neurologist, when he encounters anomalous forms of paralysis, always to make inquiries as to whether arsenic has been given. I have recently witnessed a fatal case, in which partial paraplegia was the first symptom in a series of nervous phenomena, which ended by convulsions and coma. The patient, a healthy young man, had administered to himself very large doses of arsenic for the cure of psoriasis, and had continued them for a very long time. His case is only one of several bearing upon the same subject.

ILLUSTRATIONS
OF LAWS
OF HEREDITY.

Did our time permit, I should much have liked to produce some facts in illustration

of the interesting evidence as to the laws of heredity which affections of the skin afford us. In speaking of Kaposi's disease, we found that it was a very remarkable example of what are called family diseases. If a child, the subject of this malady, has a number of brothers and sisters, you may be quite certain that about half of them are affected by it, the other half escaping entirely. Just the same is seen in the case of ichthyosis. Now, the problem is, how are these family diseases bred up? How comes it that two parents, neither of whom suffer themselves, produce a progeny of which one half are the victims, almost from birth, of such definite and afflictive peculiarities? The solution of this most perplexing problem will, I venture to say, be found by the dermatologist, if it is found by any one. Already we see some glimpses of light. It seems probable that, in rare instances, a disease in a parent may assume in trans-

mission a wholly different form in the offspring. Thus, for instance, I believe that psoriasis in the parent may result in congenital ichthyosis in the child. Some years ago I read at the Medico-Chirurgical Society the particulars of a most remarkable case, in which a boy was born without hair, and almost without subcutaneous fat, and with scars in the positions of his mammary glands. He had also other defects of the skin and its appendages, the nails and teeth. All this seemed to be the result of complete alopecia in his mother, who was in other respects well developed. A large number of the diseases of the skin, notably psoriasis and eczema, exemplify the laws of heredity, but I must not venture on the present occasion to do more than just refer to the fact.

MEANS OF
ADVANCING
THE SCIENTIFIC
KNOWLEDGE OF
DERMATOLOGY.

My object in the present address has not been to elucidate any one of the topics which skin-diseases present for our study, but by a rapid glance

at many to claim attention to their importance. More especially have I wished to show that their importance is not restricted, but that it spreads out over the whole domain of pathology and pathogenesis. Dermatology is no longer to be regarded with senseless prejudice, as a mere matter of giving arsenic and prescribing ointments and lotions, nor, as some, only a stage more enlightened, think, an arena for endless debate as to the arbitrary application of pedantic names of older or newer coinage. We have got beyond the old classifications, and we are ceasing to be merely empirical therapeutists. We claim for dermatology a foremost place as a branch of scientific medicine, and without hesitation I assert of it that beyond all others it offers attractions to the student of the laws of disease in general, and to the seeker after the causes which disturb health and local nutrition. If we would succeed in using it with these objects in view, we must patiently go into great

detail, and if we are capable of this patience, we shall certainly succeed. Accuracy of observation and the careful accumulation of well-observed facts are what we want. Here let me note the great usefulness of pictorial illustrations in enabling us more easily to realize and keep in memory the appearances presented by different diseases, and remark that in the ease with which these are obtained, skin-diseases again offer us great advantages. For the most part, in other maladies, the actual appearances of the disease can be brought under the eye only when the disease has run its course, and when the patient is dead. In those of the skin we can watch and study, and depict by model or by drawing the various peculiarities of the inflammatory process which in different stages constitutes the disease with singular facility.

Those who wish well to the advance of dermatology as a department of medicine, and as a field from the cultivation of which we may hope for discoveries which will assist us in other departments, ought at once to put aside all petty jealousies as to specialists and specialisms. Every large town, certainly every provincial hospital, ought to have its specialist and its special department for diseases of the skin. The difficulties and the extent of detail of the subject are far greater than outsiders think, and they will never be surmounted excepting by those who to some extent set themselves apart for the work. On the other hand, the standard of knowledge possessed by the profession at large will be greatly advanced by the labors of these special workers. They will not keep their discoveries to themselves, and every new discovery is a distinct simplification of our knowledge and a gain to medical education. We ought also, I think, to multiply the societies and associations which have for their object the elucidation of the problems of dermatology. One such exists in London, which has done excellent work. Its members meet once a month for the demonstration to each other of interesting

cases, all the meetings being strictly clinical. In this way some of the very rarest manifestations of disease become to its members almost common, and opportunities for comparison of cases are afforded which an isolated observer could never hope to obtain.

Next I must mention, as being of at least equal importance with such societies, the formation of museums for the permanent display of illustrations of all conditions which the modeler or the artist can depict. Probably not more than one in a hundred of the British profession have as yet seen a case of "Kaposi's disease"; nor, under ordinary conditions, will more than one in a hundred have an opportunity of doing so during the next twenty years. Yet, let me again repeat, that it is no mere pathological curiosity, but a condition full of instruction for us all. The only method by which its lessons can be made common property is by the use of drawings and models. The modeler could represent it with an accuracy equal to life, and his work would thenceforward be accessible to all. In this way a sort of permanent hospital might be produced, the patients in which would never either get well or die, but remain always ready for inspection. Such a clinical museum already exists—so far as skin diseases and syphilis are concerned—in the excellent collection which has been made by the staff of the Hôpital St. Louis, in Paris, and most valuable it is. You may there see all the varieties of morphea, the rare forms of lupus, Kaposi's disease, Raynaud's disease, and a hundred others, permanently represented in the most life-like manner, and may study them at your leisure. Smaller attempts in the same direction have been made in the museum of our College of Surgeons, in that of Guy's Hospital, and some others. I am most glad to know that it is the intention of the Council of the College of Surgeons to make a large endeavor to complete its collection, and that a plan has been adopted for the building of a new wing to its museum, which is to be devoted principally to the illustra-

tion of diseases as they are seen in the living subject. It will, when completed, constitute a sort of clinical museum, as distinct from one of pathological anatomy, and will, I suppose, contain representations of every thing likely to assist in the very important art of diagnosis by the eye. It will, of course, be in no way restricted to the morbid phenomena displayed by the skin, but these must obviously constitute a large and conspicuous section. Such a collection of models and drawings will, I can not doubt, be of the utmost advantage in assisting the attainment of that kind of knowledge which is available at the bedside, and it will be used not only by students, but by the profession at large. In these matters we are all students, and must always remain so.

I have not succeeded much in what I have tried to imply in this address if I have not convinced you that the rarest diseases are not infrequently, when we have regard to the lessons which they convey, those best worthy of our study. It is very remarkable how sometimes the investigation of some very infrequent phenomenon throws a flood of light on things which are of common and every-day occurrence. We can not afford to neglect any thing, and shall often find that which at first glance we had thought of least value prove to be of the greatest.

I must now, Mr. President and gentlemen, bring my discourse to a close, and in doing so I dare not attempt any recapitulation, lest I should weary you by repetition. One thing, however, I must ask your leave to remind you of, and it is this: that I have been, in what I have to-day brought before you, availing myself in the freest possible manner of the labors of many workers. I should have broken in upon the continuity of my subject if I had delayed in the attempt to assign to each his due, but I must not now neglect to make a general acknowledgment. Dermatology claims among its pioneers many honorable names: Cazenave, Willan, Devergie, Bazin, Wilson, Hebra, Addison, were among those who showed

us the way to its treasures. Their labors have been taken up by a large phalanx of trained observers in the present day, among whom we have such men as Gull, Fournier, Neumann, Beznier, Vidal, the brothers Fox, Duckworth, Hilton Fagge, Waren Tay, Pye-Smith, Crocker, Liveing, Morris, Stephen Mackenzie, and a host of others. I have rifled for your pleasure the hive of dermatology, and it is right that I should ask you at any rate to give a passing thought of recognition to the bees. For my theft I make no apology. If you have found the honey good and wholesome, I am quite willing to take the blame for having stolen it for you.

M. PASTEUR AND HIS OPPONENTS.

<p>M. Pasteur is quietly engaged in his laboratory at the Ecole Normal at Paris, while a few jealous creatures, like M. Peter, who is tormented far more by Pasteur's growing popularity than by any desire he may have to correct abuses; and M. Lutand, the accomplished editor of the <i>Journal de Medecine</i>, who has had the bad taste to undertake to lecture the profession of London into the belief that Pasteur is an imposter. M. Lutand is said to be a man of ability. He is certainly an accomplished scholar and journalist. He seems altogether ignorant of the fact that demonstration alone establishes any proposition in science, and that no sort of argument can be effective against an established truth. The question may be narrowed simply to this: M. Pasteur has overturned all our preconceived notions concerning the manner in which vaccination protects us against infectious disease. He confronts us with an array of facts that confounds the sophistry of our scholars and teachers. He demonstrates the potency of his virus to modify the malignancy of the virus of rabies previously introduced into the system. This is the great point which is so bitterly contested. Notwithstanding all this M. Pasteur seems to have established it.</p>	<p>M. Pasteur is quietly engaged in his laboratory at the Ecole Normal at Paris, while a few jealous creatures, like M. Peter, who is tormented far more by Pasteur's growing popularity than by any desire he may have to correct abuses; and M. Lutand, the accomplished editor of the <i>Journal de Medecine</i>, who has had the bad taste to undertake to lecture the profession of London into the belief that Pasteur is an imposter. M. Lutand is said to be a man of ability. He is certainly an accomplished scholar and journalist. He seems altogether ignorant of the fact that demonstration alone establishes any proposition in science, and that no sort of argument can be effective against an established truth. The question may be narrowed simply to this: M. Pasteur has overturned all our preconceived notions concerning the manner in which vaccination protects us against infectious disease. He confronts us with an array of facts that confounds the sophistry of our scholars and teachers. He demonstrates the potency of his virus to modify the malignancy of the virus of rabies previously introduced into the system. This is the great point which is so bitterly contested. Notwithstanding all this M. Pasteur seems to have established it.</p>
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BOOKS AND PERIODICALS.

EARTH AS
A TOPICAL
APPLICATION
IN SURGERY.
BY
ADDINELL HEWSON,
M. D.

Second edition. *Medical
Register Company*, Phila-
delphia. 1887.

The first edition of this work was published in Philadelphia in 1872. It embodied chiefly the results of six months' continuous experience in the surgical wards of the Pennsylvania Hospital. These observations were made in 1869, and when first published excited a great deal of comment. Ninety-three cases in all are reported; and Dr. Hewson's experience tends strongly to support the theory set forth in his book. The earth dressing applied to fetid sores at once destroyed all fetor, and the process of repair began. As the earth dressing absorbs and alters the septic matters from wounds, it may readily be seen that the character of the earth employed is of the first importance. The dressing should be changed when the earth has become sufficiently saturated to unfit it for antiseptic action. Dr. Hewson's book is exceedingly well written, and should command the attention of every person who may be called upon to dress or treat wounds. The *Register Company* has done its part very handsomely. There are 309 large duodecimo pages, handsomely bound in cloth, for one dollar.

ANÆMIA.
BY
FREDERICK P. HENRY.
M. D.

Professor of Clinical Medicine in the Philadelphia Polyclinic.

Philadelphia: P. Blackiston, Son & Co. 1887. Vest-pocket edition; 136 pages. Half muslin. Price, 75 cents.

The readers of the Polyclinic are no doubt familiar with the views of Prof. Henry on the subject of anæmia in general. The subject is taken up in a systematic manner after a suitable introduction. The method of examination consists in the enumeration of the red and white corpuscles, and in the determination of the percentage of hemoglobin in the former. A known quantity of

blood is diluted with a known quantity of fluid and placed in a cell of a certain depth and superficies. This cell is to be divided by the spaces between the ruled lines of an ocular micrometer, and the corpuscles counted in each space, or the bottom of the cell itself is to be divided into squares, and the number of the corpuscles counted in each square separately. The depth of the cell, its superficies, and the degree of dilution, afford data for the determination of the number of corpuscles in a cubic millimeter of blood. The process of examination is described at great length and in a very accurate manner. The subject of *general anæmia* is next considered, following which is an account of the *exciting causes, the symptoms, the anatomical characteristics, the diagnosis, the prognosis, and the treatment of anæmia*. After this special varieties are considered seriatim, the little volume concluding with a brief chapter on parasitic anæmia. It is a charmingly written work, by a master's hand.

THE TRANSACTIONS OF THE
ASSOCIATION
OF AMERICAN
PHYSICIANS.

First Session.
WASHINGTON, D. C.
June 17th, and 18th, 1886.

FRANCIS DELAFIELD, M. D.
President.

JAMES TYSON, M. D.,
Secretary.

JAMES T. WHITTAKER, M. D.
Recorder.

WILLIAM J. DORNAN,
Printer. 1886.

The list of members includes seventy-five names of gentlemen, all of whom, with the exception of five, reside in the cities of the East, principally Philadelphia, New York, Boston, and Baltimore. The solitary representative from the blighted district embraced in Billings' map being the distinguished gentleman who holds the office of Recorder, Prof. James T. Whittaker, of Cincinnati. This is truly a representative association of American physicians, every one of whom claim a residence in the United States or in Canada. It meets at the nation's capital, and might have been called the United States Association, except that not more than four or five of the thirty-eight States of the Union are represented.

CORRESPONDENCE AND SOCIETIES.

BRITISH MEDICAL
ASSOCIATION.

Fifty-fifth annual meeting,
at Dublin, Ireland, Au-
gust 2, 3, 4, and 5,
1887.

[Reported for PROGRESS.]

1887.

The meeting was called to order at 11:30 A. M., in Trinity College Hall, by Dr. W. Withers More, President for 1886-7.

The reading of the minutes of the last meeting was, on motion, dispensed with.

After which, President More delivered his address on retiring from office, in which he paid a glowing tribute to Irish hospitality, and to the memory of the late Dr. William Stokes, who was twenty years ago President of the Association.

At the conclusion of Dr. More's address, he presented the President elect, Dr. Wm. Banks, who, on taking the chair, was greeted with cheers.

Mr. Wheelhouse, of Leeds, moved that the cordial thanks of the Association be given to Dr. William Withers More, for the courteous and able manner he had discharged the duties of the presidential office, and that he be elected a Vice-President for life.

Sir Thomas Crawford seconded the motion, which was carried by acclamation, with no dissenting voice.

Sir Walter Foster proposed the report of the Council, together with the financial statement for the year ending 31st September, 1886, be received and adopted.

In doing so he said that every one who, like himself, had enjoyed the advantages of an education in Dublin, was very glad to revisit the city. A considerable debt of gratitude was due to the Dublin friends, who, when owing to unforeseen circumstances the Association was practically without a place of meeting for the present year, came to the rescue. The result was a meeting which promised to rival any that had ever been held.

The British Medical Association met in fifty-fifth annual assembly at Dublin, Ireland, the 2d, 3d, 4th, and 5th of August,

The amount of business that accumulated from year to year had become so great that it had been felt desirable to make a new departure, and rearrange the work so that one portion should not overlap another.

The report stated that the Association was growing broader in its boundaries. There were now close upon 12,000 members, and no doubt the time would come when every respectable medical man in the United Kingdom would join the Association, whose influence was now extending to the various colonies and dependencies of the empire, so that practically it was becoming a great federation of the medical profession all over Her Majesty's dominions. The Council had that morning agreed to the recognition of two branches, one in Colombo, and another in Halifax, while an application had been received for a branch at Kimberley in South Africa.

The financial position of the Association was very satisfactory. During the past year the surplus balance amounted to £3,989. The new buildings were a credit to the Association; thanks to the liberality of Mr. Ernest Hart, a library would soon be formed, and the members would find a pleasant home there. When the Association met in Dublin twenty years ago they were crippled for want of funds; but to-day nearly £20,000 were invested. The position in which they now stand was largely due to the devotion with which the Secretary, Mr. Fowke, managed the business, and the unrivalled manner in which the *Journal* was conducted by Mr. Ernest Hart and his coadjutors. It was now the first medical journal of the world, and was recognized every where as an honor to the Association.

The Parliamentary Bills Committee had kept a watchful eye on every thing introduced in Parliament which might affect the interests of the profession. A committee had also been sitting on the subject of legislation for habitual drunkards, and he hoped that next year the amended bill that was now before the House would become an

act of Parliament. The Scientific Grants Committee had been doing good work, as well as the Collective Investigation Committee.

The new premises at 429 Strand, of which he had spoken, had been fitted up in a most convenient manner. The lease cost £4,500, and the total expenditure was £9,844. The report contained certain recommendations with reference to the payment of members of the Council. That had been a vexed question for several years past, and he had never hesitated to express his opinion that there was no loss of dignity in accepting payment for such services. The Council had suggested a compromise, proceeding on a system of payment for attendances, but if the meeting decided against it, it would in no sense be regarded as a hostile vote.

Among the distinguished men who had passed away during the year was Dr. Chadwick, whose place could not very well be filled.

The whole report was an honest record of work done on behalf of the medical profession.

Mr. Macnamara seconded the motion.

Payment of Traveling Expenses to Representatives on the Council.—Dr. Strange, referring to the question of the payment of representatives on the Council, said that such payment was entirely uncongenial to the spirit of the Association. It was quite right that a branch, if it thought proper, should offer to pay its representative his railway expenses; but the Association ought not to fritter away its funds, but employ them for worthy objects. A circular had been sent out to the branches, asking for their opinion, and seventeen branches, numbering about 2,700 members, replied, desiring that the expenses should be paid out of the funds of the Association, while 2,800 members were in favor of payment of railway fares by the branches, or not at all. But where were the remaining 6,000 members of the Association whose funds would be dipped into to find the money? It re-

mained with the annual meeting to say once more if the Association should be taxed to the tune of £500 or £600 a year to pay the railway fares of gentlemen, many of whom were perfectly able to pay them themselves, for many of whom their own branches could pay the fares, and a large number of whom viewed the proposition with distaste. It was quite true that the members of the General Medical Council were paid; but they were not a voluntary association; they were called by act of Parliament to do the business of the State, and were practically paid out of a State tax, levied *ad hoc*. The report of the Council did not merely recommend the payment of railway fares; the proposal went further. The general funds of the Association should be employed for other purposes; to promote the social, scientific, and literary interests of the profession; to add to its power and usefulness; they had yet other high professional and public objects to which the Association might devote its surplus. He would, therefore, move the omission of the paragraphs recommending payments to members of the Council.

Dr. Holman (Reigate) seconded the amendment without a speech, reserving a right of reply.

Dr. Fitzpatrick said it was true that the largest branch had given its voice against the payment, but the metropolitan members lived within a five-shilling ride of the offices, while some provincial members had to pay pounds.

Mr. Ernest Hart said the Metropolitan Counties Branch was not opposed to the payment of provincial members.

Dr. Ince felt ashamed that this question had ever been brought forward. It was in every way most unworthy of the dignity of the profession.

Dr. Drysdale thought that the railway fares of provincial members of the Council should be paid by the Association.

Mr. Ernest Hart said that the question had been before the annual meeting on three

occasions, and the members had always said "No" to the proposal to pay the representatives. In order to meet the wishes of a few, the Council, in their report, now proposed that every body should be paid. He fancied that the person who drew up the resolution for the Council was a financial wag and was playing a joke with the Council. The proposal was that the Association should always first put by £2,000 a year, and then pay £500 as fees to all its members. This meant mortgaging the surplus, and tying the hands of the Association in a way which might prevent needful application of funds in future to high public uses and to scientific research, or for professional defense.

Dr. Jacob did not wish that the vote should be taken without a word being said on behalf of the provincial branches and their representatives. The only information with regard to the opinion of the members of the Association came from the Council. It appeared that there were sixteen branches, representing 2,700 members, in favor of first-class fare being paid; eight branches, with 1,878 members, were in favor of paying such fares out of their own funds. Altogether there were 4,804 members who had endorsed the principle of payment in one form or another, and who did not feel it a terrible degradation to receive railway fares. Against that view were 2,878 gentlemen, resident in and about London. At present the entire organization and management of the Association was practically in the hands of the London members. He hoped that his friends on the Metropolitan Counties Branch would not for an instant suppose that he was in any way jealous of them. The Association had the greatest reason to thank them for the time and intelligence they had given to its business; still he did not think any association could be well organized in which, by reason of a rule, the outside members did not possess adequate representation. For that reason alone, he should always continue to vote for the payment of fees.

Mr. Wheelhouse said that, when the Council requested a sub-committee to consider this matter, the first question they put to themselves was, "How can we put it before the Association so that there shall be no sore about it?" Great pains were taken to get at the mind of the branches. He himself was responsible for the report, but not for the resolution that had grown out of it in the Council. The provincial members attended the Council in an overwhelming majority, and practically had the management of the Association wholly in their hands. With rare exceptions, they did not ask that their railway fares should be paid.

Dr. Strange's amendment was put to the vote, and carried by an overwhelming majority. On its being put as a substantive motion, Dr. Fitzpatrick moved as an amendment:

"That the parent Association pay out of the funds of the Association the first-class railway fares of the representatives of the branches."

Dr. Drysdale seconded the amendment, which, however, was decisively negatived, and the motion for the adoption of the report omitting the paragraphs relating to payment of representatives was carried also by a decisive majority.

The meeting then adjourned for an hour. On its reassembling

Vote of thanks to Mr. C. N. Macnamara:
—Sir W. Foster moved:

"That the best thanks of the Association be given to Mr. C. N. Macnamara for his able services as Treasurer during the past three years, and for the great interest he has shown in the welfare of the Association, and that he be and is hereby elected a Vice-President for life."

In doing so he said that, as President of the Council, he could testify to the unremitting attention which Mr. Macnamara had paid to the duties of his office, and the careful supervision he had exercised over the finances of the Association.

Sir Thomas Crawford seconded the motion, which was carried by acclamation.

Mr. Macnamara, in thanking the Association for the manner in which the resolution had been agreed to, assured them that it had given him very great pleasure to act as the Treasurer for the last three years, but he could not help saying that the aid which had enabled him to leave the business in so satisfactory a position was that of their energetic and able manager, Mr. Fowke, who had given the best years of his life to the Association.

Election of Treasurer.—Professor Gairdner proposed:

“That Dr. Holman be, and he is hereby, elected Treasurer to the British Medical Association for the ensuing three years, in accordance with the by-law.”

The motion was seconded by Dr. Myrtle, and unanimously agreed to.

Dr. Holman, in returning thanks for his election, said it did his heart good to know that after many years' work he had gained the confidence and trust of his colleagues. He had not been much of a talker on the Council, but he hoped that he had done as good work as some others, and that in his new position he might still be useful to the Association. He might be wanting in health and ability, but no one should ever be able to accuse him of want of will or of industry in serving the Association.

Report of the Parliamentary Bills Committee.—Mr. Ernest Hart moved the adoption of the report (published at page 207 of the *Journal* of July 27) by the Parliamentary Bills Committee. That report, he said, had been before the Association in more ways than one. It was the habit of the committee to publish full reports of its proceedings and a summary of debates immediately after its meetings. The plan had worked exceedingly well. It had strengthened the committee's hands by bringing it into constant contact with the members, and by acquainting the members with the work of the committee. He trusted that the precedent would, at some future time, be followed by other committees. They had, to the best of their

ability, maintained the rights of medical men in connection with public events, and had modified in valuable respects some of the provisions of the Lunacy Acts Amendment Bill which had passed the House of Lords, but had now been withdrawn in the House of Commons. He need not detain the meeting by referring at length to the army medical officers, but the Parliament Bills Committee had received, and continued to receive, the thanks of many hundreds in the Army Medical service for the action they had taken, and he was daily in receipt of communications supporting that action. The Association was indebted to Sir W. Foster for bringing forward in Parliament an amendment to the Pharmacy Bill, which would protect the medical profession. As the Pharmacy Bill was originally framed it threatened to give, indirectly, powers to chemists to practice and prescribe, and the Association was much indebted to Mr. Marshall, Mr. Simon, and Dr. Quain for having transgressed the ordinary formula of business of the General Medical Council, and gone immediately to the Privy Council and pressed upon them considerations opposed to some of the clauses of the bill.

Mr. Sibley seconded the motion. He considered that the Parliamentary Bills Committee had done a great deal of good work during the past session, which had been productive of a good result. The Committee, therefore, merited the confidence and thanks of the meeting.

Relative Rank of Medical Officers.—Sir Thomas Crawford said he rose with considerable reluctance to take exception to some matters connected with the action of the Parliamentary Bills Committee. He wished first, however, to say that the public services were greatly indebted to the Association, and were under deep obligations to Mr. Hart for his many services to them. The Medical Department had been greatly benefited by the tendency to bring the medical officers of the army back into the bosom of the profession, and as far as possible to make them

feel that they were one with the civil members of the profession. One of the most important acts in his administration had been to try to get the medical officers of the army to keep up their connection with the public institutions in which they were reared. He was, therefore, extremely sorry to have to take any exception to the action of any member of the Association, but the issues were so great that, dropping his position as Director-General, he thought it right as a member of the Association to state his objections to the proposals which had appeared in the late numbers of the *Journal*, in order that the members of the Association might be in possession of the real facts. In January last certain alterations were made in the pay warrant for the army, which governed all the matters connected with the rights, privileges, rank and position of medical officers. Those alterations had mainly for their object changes in the combatant section of the army; but amongst those changes was one that affected the whole of the medical staff of the army. He alluded to what was called the relative rank table, and it had been alleged that relative rank was really the only rank that the medical officer held. In order to show that relative rank was not the rank of the medical officer, he read to the meeting the words of the commission which was given to every medical officer on entering the service. It was, in general terms, precisely the same as the commission granted to combatant officers, and there was no allusion in it to any thing like "relative rank." His opinion was that medical officers were in reality in a better position than formerly, but the letters which had appeared in the *Journal* stated that they had been grievously humiliated. It had also been said that the medical officers did not address their own chief, because, if they did so, they might injuriously affect their own position. He considered that that was a charge which no man had a right to make against him, and the *Journal* ought not to allow such insinuations to be made against

him anonymously. Every medical officer in the army having a grievance was at perfect liberty to address his chief. A circular had been addressed to medical officers in the army asking their opinions on certain points. No combinations of any sort whatever were permitted to exist in the public service, but no man's mouth was shut, and every medical officer having a grievance was at perfect liberty to ventilate it. He did not think it was possible to produce a single instance in which any officer was ever punished for making a fair and honest statement of his grievances. The proposal in the *Journal* was that the medical men should submit to be called by titles to which they had no claim, and which had no relation whatever to medicine or medical science. Mr. Hart wanted the medical officers to submerge their profession and allow themselves to be known by titles which it would be a degradation to any medical man to accept.

Lord Randolph Churchill was most willing that the cost of the medical service should be cut down to the lowest figure, but the rank he aimed at reducing was that of Surgeons-General, because their salary was over £1,300 a year. It might be asked why the medical service should not be made into a corps, and as far as he knew the authorities had no objection to that; but the difficulty was that at the present moment there were 800 or 900 medical officers drawing staff allowances, and, if they were put into a corps, like the engineers, it would necessitate their accepting regimental allowances, which would be a reduction of some twenty-five per cent throughout the various ranks. The honorary rank, which the letters in the *Journal* asked for, was a purely titular one. Of necessity the commanding officer in an army was supreme, and medical officers were not there for the purpose of commanding troops, but to take care of the health of the soldiers. If they respected themselves and their profession, he was quite sure they would never suffer at the hands of the military authorities.

Surgeon-Major Ince said that, having seen twenty years' service, he could assure the meeting that no subject gave rise to more irritation and contempt on the part of combatant officers than any allusion on the part of the medical officers to their so-called "relative rank." Medical men had a universal rank, and he hoped that, after the able manner in which Sir Thomas Crawford had laid the subject before the Association, the Council would use their influence with the editor of the *Journal* to put an end to the discussion. In the army a medical officer would always be rated according to his own individual, moral, and professional position.

Dr. Shank, as a retired medical officer, thoroughly endorsed every thing that had been said by Sir Thomas Crawford.

The President: Do you desire to move an amendment to the report, Sir Thomas?

Sir Thomas Crawford: If it be necessary, I would beg to move that the paragraphs referring to "relative rank" should be omitted from the report, and referred back to the Parliamentary Bills Committee for further consideration.

Surgeon-General Cornish seconded the amendment. It seemed to him that a great deal of the misunderstanding which had occurred was due to a little inadvertance on the part of the Secretary of War, who stated that no significance was attached to the term "relative rank."

The Rev. Dr. Haughton said he had in his pocket twenty-five telegrams and letters relating to this subject, but, like the Kilkenney cats, they killed each other. There were many persons like himself who had been asked to influence their friends in the House of Commons on one side or the other; but it was very wrong to join in a fight unless one knew whose head he was hitting. He therefore thought that the proposal to refer the matter back to the committee was a wise one.

Mr. Ernest Hart said that technically, by referring the report back to the committee,

the Association would negative the action of that committee, who might regard it as a vote of censure.

Sir Thomas Crawford said, that before any of the alternatives mentioned in the circular were offered to the officers of the Army Medical Department, the Association ought to be sure that they would be able to obtain what was desired in the event of any one alternative being unanimously approved of.

Mr. Ernest Hart said it was of the greatest possible advantage to the Association that they had heard from Sir Thomas Crawford the views he entertained on this subject. The Director-General said that every thing was for the best in the best of all services, that the position of the army medical officer was every thing it ought to be, and that no further action was needed. If that were so, how was it that the whole department was boiling with discontent?

Sir Thomas Crawford: There is not, within my knowledge, one single representation either to the Director-General, or the Commander-in-Chief, or the Secretary of State for War, from any officer.

Mr. Ernest Hart said Sir Thomas Crawford knew well unofficially that a large number of most eminent officers in the department were discontented, and that not only the Parliamentary Bills Committee, but professors in the universities, and in the College of Physicians of Edinburgh, had had innumerable complaints addressed to them. The chief officers of his own department knew that the opinions stated in the *Journal* were at least the opinions of a great majority of the officers; and if he said he had no representation of the kind officially, it only proved what had been repeatedly alleged, that such representations were not officially made because the officers felt that if they did so their promotion would not be hastened.

Sir Thomas Crawford: Mr. Hart is not justified in making a statement of that sort.

Mr. Ernest Hart: Would be sorry that Sir Thomas Crawford should misinterpret his

statement. Officers of the army were under this disadvantage that if they entertained views which were known to be regarded with disfavor by the heads of their department they were not allowed to make any collective statement, and they felt that individual statements might do them an injury. Dr. Farquharson had, at his instance, asked the Secretary of State for War if he would allow the army medical officers to make any collective representation, and the answer was that it was contrary to the rules of the service. Under those circumstances, the Parliamentary Bills Committee, having been extensively appealed to, had only done their duty and followed all past precedents in offering to the medical officers an opportunity of expressing their opinions. Sir Thomas Crawford was under a complete misapprehension if he imagined that the editor of the *Journal* was an initiating element in the matter. When he (Mr. Hart) was away from London he expressly requested the gentleman who was to act for him that every thing should be done to put an end to the agitation and for weeks together no letters on the subject were published, but the shoals of letters and telegrams he had since received showed that the answer of the Secretary of State for War, with which Sir Thomas Crawford professed himself content, was causing the deepest dissatisfaction and anxiety. Only a fortnight ago he received a collective telegram from 200 medical officers in India, with a heavy check to pay the expenses of issuing a circular in order to take the individual opinion of medical officers. The check had been returned, but the offer was significant. All that the committee had done had been done with the advice and assistance of eminent men, of various grades and offices in the Army Medical Service. They would have failed in their duty if they had taken means to ascertain the individual opinions of army medical men.

Mr. Macnamara said that when he was

in the army he never had the slightest hesitation in approaching the head of the medical service and making known any complaints. It seemed to him absurd to suppose that the medical officers would not have made known their grievances to Sir Thomas Crawford, if they had any.

Sir W. Foster said if the matter were referred back to the Parliamentary Bills Committee for reconsideration, it would be the duty of the Council to go through all the evidence that Mr. Hart and the committee might possess.

Mr. Hart said he should not object to the reference, provided it did not imply any censure on the committee, but only a desire for further inquiry.

Sir Thomas Crawford said that he had not the slightest intention of implying any thing like improper motive. He believed the whole difficulty had arisen from want of technical knowledge.

The report was then adopted with the omission of the paragraphs relating to "relative rank," which were referred back to the committee for further consideration.

Report of the Habitual Drunkards' Committee.—Dr. Norman Kerr moved the adoption of the report of the Habitual Drunkards Committee, published at page 208 of the *Journal* of July 23, 1887.

Dr. Thwing seconded the motion, which was carried; and the meeting was then adjourned.

TUESDAY EVENING, AUGUST 2.	Dr. Banks, President, took the chair at half-past eight.
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The address of President John T. Banks, M. D., etc., on the *History of Medicine in Dublin* was then delivered.

He said the British Association in 1880 numbered eight thousand members. It is now nearly twelve thousand. It counts among its membership all that is most distinguished and eminent in our profession. When the Association met for the first time in Dublin, twenty years ago, the great Dr. William Stokes was called to the presiden-

tial chair. The medical profession of Dublin was then honored by the late Sir Dominick Corrigan. These are names which fire the ambition of youth. They constantly rise up in the memories of the seniors in medicine, and at the bare mention of them we bow our heads in referential regard.

Trinity College was established by Queen Elizabeth nearly three hundred years ago. From this university many of Ireland's most brilliant sons have gone forth to achieve honorable distinction. Some seven years after the foundation of the University, it is recorded in the college register that a concordatum of forty pounds sterling yearly was granted by the government for a physician's pay; and this is supposed to be the origin of the professorship of physic. It was not until 1618 that medicine became an integral part of university teaching. A quotation from the college register shows that medicine was placed side by side with law by the example of Oxford and Cambridge, the scheme of which had for their model the ancient University of Paris. We learn by examination of the unpublished rules made in 1617, conditions were prescribed for graduation in the University; and the statutes regulating examinations there had been adopted as early as 1570. For thirty-six years from its foundation, the University of Dublin was ruled by Cambridge men. The method of examination of candidates for the degree of M. B. was to begin *viva voce* in Latin, one candidate, the Keeper of the Act; the other candidate, the Keeper of the Oponency. The Regius Professor presided at the Act, and himself brought argument, etc., and questioned both the respondent and oponent. At the end of an hour he pronounced satisfaction or dissatisfaction with the performances. Before applying for the degree of M. B., the candidate must have five complete years. In the ancient statutes it was ordered, "*Anatomias tres aut ad minimum duas videbit.*" For the degree of M. D., the candidate had to keep the Acts and one Oponency, and five years must

have expired from taking the M. B. The form of disputation in the schools was adopted in our university, and it was regarded that the student in medicine should be a Master of Arts, and have spent three years after taking his Master's degree in the diligent study of medicine; he must have been present at the dissection of three bodies, and have cured four cases of different diseases. It is interesting to notice that since the law was enacted that the professorship of physic should be followed by a fellow, only three having been found qualified. One of them—Dr. John Stearne—induced the Provost and senior fellows to assign a building, which was called Trinity Hall, for the use of the fraternity of physicians, and he was their first president. The third was Dr. Whitley Stokes, to whose profound learning and great energy we owe a museum, and also our botanic garden. From the time of the election of the first professor of physic, John Temple, 1618, down to the present day, Dublin University has been the great mother of medicine.

I now pass on to speak of our College of Physicians, which was called into existence by the University, with which to this day it is intimately connected. The earliest notice of the College of Physicians is found in a letter from Charles I to Viscount Falkland, the date of which is 1626. He commences by referring to the zeal his father had to reduce the kingdom of Ireland to civility, and to a uniform manner of government with the realms of England. "We, therefore," he proceeds to say, "in imitation of so royal an example, have now taken into our consideration that the establishing and practice of learning and humane sciences is not a little available thereto, and among others that laudable and necessary art of physic the practice whereof, as we are informed, is daily abased in that our kingdom by wandering and ignorant empyrics who for want of restraint do so much abound, to the daily impairing of the health and hazarding of the lives of our subjects."

The King then directs that a College Society and Corporation of Physicians be "created" according to the rules and form of the charter heretofore granted to the physicians of the city of London. From this document it appears that the College of Physicians in Ireland was established on the lines of the London College, as the rules to regulate graduation in medicine in the University of Dublin were framed nearly in conformity with those of Cambridge.

In 1637, a physician, named De Lane, wrote to the famous Archbishop Usher, saying, "I suppose it hath been an error all this time to neglect the faculties of law and physic, and attend to one poor College of Devines." Soon after the incorporation of the Physicians, Trinity Hall was granted to them by the University, with the strange condition that they were to meet and consult without fees upon the best means for the recovery of the Provost and Fellows, whenever they or any of them may happen to be diseased. The College of Physicians then consisted of fourteen Fellows, including the President, a rather cumbrous consultation, but limited when compared to what it would be now that the college has attained its present dimensions.

Second on the list of Fellows in the original roll stands the name of Sir William Petty, who, taking him all in all, was not only the most remarkable man belonging to our College of Physicians, but unquestionably one of the most extraordinary men who ever played a part on the stage of public life in Ireland. Therefore, I consider a more particular notice of him is permissible.

Petty was educated at Oxford, but studied medicine at Utrecht and Leyden, and subsequently returned to Oxford, where he was appointed Professor of Anatomy and Fellow of Brasenose College. He was also professor of Music. He was recommended to the University by the Governor of the city for the Commonwealth, and it is stated he agreed with the people in power, "thus giving early promise of that worldly wisdom

which characterized his course in after life." He practiced medicine with great success at Oxford, and as proof that his devotion to music and mathematics did not divert him from his profession, we find he was a "great reformer and improver of the practice of physic."

Prosperous as Petty was at Oxford, he abandoned all his varied avocations, and sought in poor Ireland for new fields in which to display his versatile genius. He was appointed Physician-General to the army in Ireland, and to its Commander-General, Ludlow, afterwards Clerk of the Council and Secretary to Oliver Cromwell. He was very successful as a practitioner of medicine among people of the first rank in Dublin. Politics also engaged his attention, as he sat in the English and Irish Parliaments, and made "a considerable figure therein;" but the great work with which his name is associated is the Down Survey of the forfeited estates. With such exactness did he discharge the duty, that there was not an estate of £60 a year of 2,800,000 acres he surveyed but was distinctly marked out on the maps.

By this work Petty amassed a huge fortune, so that it was said he could see from the top of Mount Mangerton in Kerry 50,000 acres of his own land. Perhaps the most interesting fact remains to be told, and that is that he was the first to develop the material and industrial resources of Ireland, for he set up iron works and opened lead mines in Kerry. He also promoted the timber trade and pilchard fishery. We also observe that here, as in Oxford, he was not unmindful of his profession, for he directed his attention to sanitary science, and published a treatise entitled "Observations on the Bills of Mortality of Dublin, and the State of the City (1683)." In this he showed the death-rate in Dublin was extremely high, and that it exceeded the birth-rate.

Petty has been well termed "a renowned and universal genius," and his descendants have proved not unworthy of their illustri-

ous progenitor, for among them are found some distinguished statesmen. The vast possessions which he acquired are inherited by his decendant, the Marquis of Lansdowne, the Governor of Canada. I have been tempted to dwell too long on this wonderful man, but the surpassing interest connected with him allured me, and must be my excuse.

In the year 1699 the charter of Charles I was surrendered by the College of Physicians, and a new one was granted by King William and Queen Mary, and henceforth our College became the King and Queen's College of Physicians, and Sir Patrick Dun, who accompanied the Prince of Orange to Ireland, and was in attendance on him at the Battle of the Boyne, was chosen its first President. Sir Patrick Dun left his property to found a Professorship of Physic, but the principal part of it has been devoted to build and support a hospital which bears his honored name.

Others of our hospitals, too, as Dr. Steeven's and the Rotunda, owe their origin to the benevolence of physicians, who, above all men, know the blessings to the suffering sick of well-managed hospitals. To private benevolence Dublin is also largely indebted, for the Coombe Hospital has been rebuilt by Lord Ardilaun, a member of a family to which this city owes a deep debt of gratitude. Some of our largest hospitals have been built and are supported by the boundless liberality of the citizens of Dublin, as, for example, the Adelaide, the Mater Misericordiæ, and Jervis Street, and the smaller hospitals, too, bear testimony to the generosity of the public.

To return for a moment to the College of Physicians. Until recent times the meetings were held in Sir Patrick Dun's Hospital, the College having no habitation of its own. The present building (which I trust will be visited by our associates) is due in a great measure to the exertions of Sir D. Corrigan, who was President when the first stone was laid by the Earl of Carlisle.

In the brief sketch of the College of Physicians which I have given, I am much indebted to my friend and colleague, Dr. Aquilla Smith, who, nearly half a century since, published a most interesting account of the origin and early history of the College, in which he says the history of medicine in Ireland is still to be written, and I can not but express regret that it has not been done by himself, as I know of no one who from his antiquarian lore and literary taste could have performed the work so well. I am also indebted to my learned and accomplished friend, the Rev. Dr. Belcher, who formerly, as Fellow, held a high office in the College of Physicians, but having long since abandoned physic for the Church, is now the respected rector of an English parish.

I now come to speak of the Dublin School of Medicine, and of the men whose names are indissolubly connected with it. Its fame dates from the second decade of the present century, previous to which Irish students in medicine were forced to resort to Edinburg, or some foreign university. My own father was educated in Paris, and the last, I believe, who practiced in Dublin who received his education in Paris was the celebrated surgeon, Peele, who was for more than fifty years Surgeon to the Richmond Hospital. He was renowned for his operations for stone, and as the inventor of instruments which rendered lithotomy securely practicable. From the period to which I refer a remarkable movement, or uprising as it has been termed, took place in every branch of mental culture in Ireland, in which medicine largely shared. The *Dublin Hospital Reports* then commenced, and among the earliest contributors was Cheyne, a native of Scotland, who had recently settled in Dublin, having been attracted, he said, by finding the profession so respected, owing to the eminent physicians who had flourished here for the preceding fifty years.

Dr. Cheyne laid the foundation of his great reputation by his researches on fever, carried on in the Hardwicke Hospital, and

the results of which he published in the *Dublin Hospital Reports*. Among the early contributors were also Dr. John Crampton and Sir Philip Crampton, men whose names can never be mentioned without eliciting feelings of profound admiration and respect. One of Dr. Crampton's papers is of especial interest, as in it he described a form of fever differing from true typhus, and presenting the pathological appearances which we now know to appertain to enteric fever. He says: "Future investigators may improve our diagnosis in affections of the abdominal viscera. I am satisfied to have pointed out this disorder." May we not regard these words as foreshadowing the investigations of Sir William Jenner and my lamented friend, A. P. Stewart? Sir Henry Marsh, one of Ireland's greatest physicians, was also the author of essays of extreme value which appeared in the *Dublin Hospital Reports*. The statue of Marsh adorns the hall of the College of Physicians, having for worthy companions the statues of Graves, Stokes, and Corrigan. Of all these four men it can be affirmed that they ever labored to maintain the honor and dignity of the profession, and to elevate the scientific and social status of medicine in this country. At the ceremony of unveiling the statue of Marsh, Dr. Stokes, who was President of the College, said: "The statue would be affectionately and carefully preserved in memory of the earnest and successful worker in science, the great physician, the true friend, and the thorough Irish gentleman." On the same occasion Sir Dominick Corrigan spoke, and his words I desire to recall, as after the lapse of many years they are, I am happy to think, still applicable. He said, "Sir Henry Marsh had transmitted from those who went before him the mantle of kindness and good fellowship, of humanity and charity, of goodwill and affection, qualities which are exhibited in the profession in Dublin to a degree not excelled in any part of Europe, and which tend so much to elevate the profession."

To the many who hear me, and who never have looked on the living faces of the four men who so largely contributed to build up the edifice of Irish medicine, it will be of interest to gaze on their portraits, and see what manner of men they were. As works of art, independently of their marvelous likeness, these must be prized for their own intrinsic worth, three of the rare specimens of the sculptor whose works may also be admired in front of Trinity College. The fourth, that of Graves, is also one of much merit, and worthy of being placed in company with those of Foley, the greatest of modern sculptors, of whom Ireland may well be proud. To our College of Physicians it is interesting that Mr. Joy, to whom we owe the statue of Graves, is a son of one of our own Fellows. In my opening observations I recalled to memory that the presidential address at the first meeting of the Association in Dublin was delivered by Dr. Stokes, and the address in medicine by Sir Dominick Corrigan, of whom it may be said they have left in their works an enduring memorial of original research, proving them worthy to take rank among the most successful cultivators of medicine in the present century. In this brief sketch of Irish medical celebrities of ancient and modern times, I abstain from any notice of the College of Surgeons, and of the men who have made Irish surgery famous. The history of the College of Surgeons has been recently written by Sir Charles Cameron, who has performed the task, which was one of great labor and research, with much ability. I shall content myself with observing that the Royal College of Surgeons, like the University and the College of Physicians, has been ever found ready to initiate and to adopt every improvement in education.

Coming to the events of the last few years, I now call attention to the Royal University of Ireland, a successor of the Queen's, which, in the time it existed, had done good service to education, and the extinction of which was a subject of deep regret to many.

The Royal University, like our ancient one, was founded by a Queen whose influence has always been exercised in the promotion of every movement calculated to promote the welfare of all who have the happiness to live under her benign rule. The object of founding the Royal University was, in the words of the charter, "the advancement of learning and the extension of university education in Ireland"—the same object which Her Majesty's great predecessor, Queen Elizabeth, had in view when, in "her tender care" for the good and prosperous estate of her realm of Ireland, she directed that a university should be established, knowing, by the experience of the flourishing estate of England how expedient it is to have places of learning erected. Thus we find our gracious Sovereign in the nineteenth century following the bright example set her by her predecessor in the sixteenth.

To prove that the Royal University is well and worthily carrying out the object for which it was founded, I have only to refer to the numerical results contained in the report for the present year. The total number of persons who presented themselves at the various academical examinations of the University last year was 2,933. Last year the degree of Bachelor of Arts was conferred on nine women, four of them taking honors; the degree of Master of Arts on one lady—an event unprecedented in university annals. The University is bound to admit women; the mandatory words are: "The University created by this our charter shall have power to examine for, and, after examination, to confer all such degrees and other distinctions on every person, male or female," etc. With respect to the expediency of women entering our profession, this is a question which I abstain from discussing. The Royal University has no discretion in the matter, and our Colleges of Physicians and Surgeons have voluntarily thrown open their doors and afforded them every possible facility. There is a great field open for

medical women in India, where millions of their own sex decline to admit the ministrations of men; and to the want which exists in this part of Her Majesty's dominions Lady Dufferin, the wife of the distinguished Viceroy, who is also Chancellor of our Royal University, has kindly and wisely called attention.

In framing the medical curriculum for the young University, the medical members of the Senate aimed at a high standard, and I confidently affirm that the examinations, in point of extent and thoroughness, are not inferior to those of any of the old licensing bodies. In one particular it claims to be in advance of all except the London University, namely, in requiring proof that candidates have had clinical instruction in mental disease. The subject has been taken up in Trinity College, and encouragement will be given for the study of psychology. Dr. Cluston, the eminent psychologist of Edinburgh, in giving credit to the Royal University for taking the initiative in this matter, falls into an error in expressing regret that the General Medical Council has not taken this important question up. So far back as July, 1882, we had the question under consideration, and it was proposed by myself, and seconded by Dr. Haughton, that the subject of mental disease should be added to hygiene and preventive medicine. It was moved by Mr. Marshall, now the President of the Council, seconded by Mr. Teale, and supported by Sir William Gull, that the resolution should be communicated to the licensing bodies.

It seems to me unnecessary to adduce proofs of the need of a knowledge of mental disease for the practitioner of medicine; but some, though well aware of the necessity, objected on the ground that the curriculum is already overloaded. To this objection I replied by proposing to lengthen the period of Study, firmly believing forty-five or forty-eight months to be far too short a time for a student of ordinary intelligence to acquire a scientific and practical knowledge of all

that even the present requirements demand. In the answers to the question put by the General Medical Council to the licensing bodies on this subject, and to medical men of large and varied experience, although there was much difference of opinion, the majority were in favor of prolonging the period of study. This is also the view taken by Huxley, who says a four years' curriculum is all too short. I am entirely in agreement with Billroth that a quinquennium ought to be the period of strictly medical study, and that twenty-four should be the earliest age for receiving the *licentia practici*.

There can be no higher authority, and I shall, therefore, give his own words: "Es kann jemand früher wohl genug lernen um die ärzliche Kunst ausziehen doch für den ärzlichen Beruf in seiner ganzen Ausdehnung dürften wenige Männer vor dem vierundzwanzigsten Jahre ganz reif sein." Closely connected as I am with both universities, it is a matter to me of special gratification that the most cordial good understanding exists between the youthful Royal University and my own venerable *alma mater*.

Sir George Paget proposed a hearty vote of thanks to the President for his address.

Sir Spencer Wells seconded the motion, which was carried by acclamation.

Proposed Alterations of By-laws.—Dr. Ward Cousins proposed an alteration in by-law 9, to the following effect:

"The President of the Council shall be elected annually by the Council, and shall be eligible for re-election for a period of three years. At the first meeting of the new Council every year a President of Council shall be elected for the ensuing year."

Dr. Ince seconded the motion, which was supported by Dr. B. James.

Sir W. Foster opposed the motion on the ground that it was necessary for the President of Council to have some experience of the Council, and the annual elections might open the door to difficulties and dangers

which would interfere with the continuity of the work of the Association.

Dr. Eyton Jones supported the motion, which was opposed by Mr. Wheelhouse, and negatived by a large majority.

A notice of motion by Dr. Marshall, of Down, to the effect that the next annual meeting of the Association should be held in London, fell through in the absence of the proposer, and the meeting then adjourned.

SECOND GENERAL
MEETING,
WEDNESDAY
AFTERNOON,
AUGUST 3D.

Dr. Banks, President, took the chair at 3 o'clock.

Election of President of the Council.—Sir Walter Foster announced that the

Council had that morning elected Dr. Bridgwater, of Harrow, as their President for the ensuing three years. He congratulated the Association on their having found so good a man to conduct their business.

Dr. Bridgwater said that to follow such a man as Sir Walter Foster was no easy task, yet he had his example before him to stimulate him, and he assured the Association that if earnestness and diligence would insure success, nothing should be wanting on his part to secure it.

Vote of Thanks to Sir Walter Foster.—Dr. Strange proposed:

"That the cordial thanks of the Association be given to Sir Walter Foster, M. P., for the able way in which he presided over this Council during the past three years, for his great attention to the affairs of the Association, and for his advocacy of various measures in Parliament, whereby the influence and power of the Association and the medical profession had been materially advanced, and that he be and he is hereby elected a Vice-President for life."

In so doing, he said that from the time of Hastings downwards the Association had been blessed with a succession of very able Presidents of Council, but to none of them did Sir Walter Foster need to bow.

Sir Edward Long seconded the motion, and said that Sir Walter's services to the Association had certainly been unsurpassed, and no one who knew him would doubt that, as Vice-President, he would continue to give his able, zealous, and business-like powers to the benefit of the Association.

The resolution carried by acclamation.

Sir Walter Foster expressed himself deeply grateful for the kind and generous manner in which the resolution had been received, and for the distinguished honor conferred upon him as a recognition of the services which he had been able to render to the Association. His desire had been to discharge his duties in such a manner as to uphold as far as he could the dignity and honor of the great profession to which he belonged. His second object was to try and organize the Association in such a way as to make it a more perfect instrument for the public good and professional advancement. His third desire, which had been fulfilled, was that the headquarters of the Association should find a home worthy of the greatness of the profession. If he had merited the approbation of the members he had also received from them the highest and best reward that any one could have, for there was nothing more grateful to an honest worker in the cause of his fellow men than to receive their kind approbation and to know that in some degree he had merited their confidence.

The Annual Meeting in 1888.—Dr. Bridgewater, as President of the Council, and in accordance with the by-laws, announced that a very influential deputation had appeared before the Council and cordially invited the Association to meet next year in Glasgow.

The President elect, Sir W. Foster, moved:

"That the cordial invitation to hold the annual meeting of the Association at Glasgow for the year 1888 be accepted, and that Professor Gairdner be appointed President-elect."

The invitation came from the medical profession in the west of Scotland, and from

the great medical corporations of the city of Glasgow, and had been delayed for two or three years only in order that their Glasgow friends might receive the Association in such a manner as they considered worthy of themselves and the Association. All the medical corporations had cordially joined in the invitation, as well as the authorities of the city. Next year there will be an International Exhibition at Glasgow, which would add to the attractiveness of the city.

Dr. Whitla seconded the proposal, which was unanimously agreed to.

The Address in Medicine.—Dr. W. T. Gairdner delivered the address in medicine.

Dr. Little, in moving: "That the best thanks of the Association be given to Dr. Gairdner for his able and interesting address in medicine," said that it was his privilege many years ago to follow Dr. Gairdner in the wards of the Royal Infirmary, Edinburgh, and the most important fact he learned from him was the supreme genius of taking pains. The Association were under a peculiar debt of gratitude to Dr. Gairdner for the subject he had selected for his address. He was one of the most accomplished pathologists of the day. His skill in morbid anatomy and pathology was well known throughout the United Kingdom, but he had chosen for his address an attempt to sweep away some of the scepticism that unfortunately hung like a cloud over the medical profession. The members of the Association would thereby be encouraged to go forward and seek to collect facts with greater industry than ever.

Dr. Bastian seconded the motion.

Dr. Grainger Stewart supported the resolution. Scotland, he said, was proud of Dr. Gairdner in respect to the work he had done, the capacity he had shown, and the character he had always borne as an honorable, upright, careful worker; a man full of kindly consideration for those who were sick, as well as for his professional brethren. To quote the words of an ancient writer, "To do him any wrong was to beget a kindness

of him, for his heart was rich in such fine mold that if you sowed therein the seed of hate it blossomed charity." The resolution was agreed to with acclamation.

Professor Gairdner thanked the Association for the manner in which it had received his address.

Sir Thomas Crawford moved the following resolution:

"That inasmuch as many members of the British Medical Association are aggrieved by the practice of those public institutions which limit the sphere of selection of their medical officers to candidates holding the higher qualifications of certain colleges, this Association shall adopt such measures as it may think best to induce the Medical Council to make it clear to the public that the higher registrable qualifications of the Colleges of Physicians and Surgeons of the United Kingdom are of equal value, or if they are not, that the Medical Council will take steps to make them so, in order that candidates holding such qualifications may be equally eligible for such appointments, without reference to the nationality of the college from which their qualifications have been obtained."

In doing so, he said that for several years he had been endeavoring to persuade not only the army, but the profession at large, that the army medical officers were not merely officers in the ordinary sense of the word, but good, honest, pains-taking surgeons, who had the interest of their patients at heart. To prove that to the public at large, the Secretary of State for War had recently announced that every medical officer taking a Fellowship in one of the Royal Colleges of Physicians or Surgeons should be exempted from all further tests of professional efficiency during his service in the army. It was therefore essential that it should be known that the qualifications were of tolerably equal value. He therefore proposed to ask the Association to say that a man holding a Fellowship of a College was a Master in Medicine and in Surgery. It was

not altogether a doctor's question, it was a parent's question, for every man who was bringing up his son to the medical profession ought to consider where the guinea stamps could be obtained which would put his son in the forefront of the profession.

Sir Charles Cameron seconded the motion. He alluded to the advertisements which, he said, had recently appeared in English papers, but he did not regard them as another form of the old advertisements for servants, "No Irish need apply." It was part of the duty of the Association to rectify the error, if it were an error, that some qualifications in medicine and surgery were inferior to others. Those who were acquainted with the medical schools of Dublin would not share in the ungenerous opinions which were entertained by the lay governors of some institutions in England. The Medical Act of 1858 provided that Englishmen, Irishmen, and Scotchmen should be free to practice in any part of Her Majesty's dominions, but there appeared to be an attempt to revive the odious monopolies which previously existed.

Rev. Dr. Haughton proposed, as a friendly amendment, "That the Association is of opinion that the diplomates of the Irish Universities and Corporations should possess the same privileges in respect of public appointments that are enjoyed by diplomates of the other divisions of the kingdom."

Dr. E. Waters seconded the amendment.

Sir Thomas Crawford said he would withdraw his resolution and accept the amendment if the word "Scotch" was added to it. Rev. Dr. Haughton agreed to the proposal.

Mr. Sibley moved the previous question. It was notorious, he said, that the diplomas of different universities and corporations represented different standards.

Dr. Fitzpatrick seconded the amendment. He thought it would be very unwise for the Association to take part in every little agitation that might arise. They could exercise no influence on voluntary institutions.

Sir W. Foster said this matter had been

twice discussed in the Council of the Association, and on each occasion had been rejected. No properly constituted charity in England would be persuaded by a resolution of the Association that the membership of the College of Physicians of Edinburgh was the same qualification as the membership of the College of Physicians of London. The passing of the resolution would place the Association in a false position, and he warned the members for the honor of the Association not to be led aside by sentimental grievances.

Dr. Steward (Clifton) supported the resolution.

Dr. Haughton's amendment was put and carried by a large majority.

The meeting then adjourned.

THURSDAY, General meeting
AUGUST 4. called to order by
President Banks.

The address in Surgery was delivered by Professor Edward Hamilton, of the Royal College of Surgeons in Ireland.

Sir George Porter moved a vote of thanks for the able address of Prof. Hamilton.

Mr. Wheelhouse esteemed it a high privilege to be able to second the motion, which passed unanimously.

Dr. Ward Cousins, of Ryde, having offered a prize of £20 for the best essay on Abortion, Dr. Bridgewater announced that the committee, after patient examination of thirteen essays, had felt constrained to award the prize to Dr. Rentoul, of Liverpool. The successful competitor being unavoidably absent from the meeting.

Dr. Cousins, after speaking in terms of praise concerning the essay, announced that a check for the sum of £20 had been forwarded to Dr. Rentoul.

The Scientific Grants Committee reported through Dr. Grimshaw, who said the whole work of the committee had been carried out at the small cost of £345. It was important to continue this work, and hoped soon to see the Association able to find its way to establish laboratories for special kinds of

investigation. He begged to move the adoption of the committee's report.

Dr. Burney Yoe thought the Association could find no better use for its surplus funds than the encouragement of scientific research. He therefore felt much pleasure in seconding the motion.

SECTION WORK.

On Wednesday, in the Medicine Section, an interesting discussion took place on the report of the Collective Investigation Committee on Alcoholism. In the section of Ophthalmology the treatment of cataract and lochrymal obstruction were both well discussed. Meyer, of Paris, demonstrated a beautiful instrument, of novel construction, for the clinical examination of the light-sense. A paper was read by Professor V. Zehender, of Rostock. In the sub-section of Otology, the President, Dr. Woakes, gave his address. There was a good discussion on Dr. Barr's paper on "Tinnitus Aurium." In the section of Surgery much interest was shown in the subject of Suture of the Patella, raised by Dr. Hector Cammeron, of Glasgow, and in Mr. H. Allingham's paper on "Inguinal Colotomy," and that of Sir Spencer Wells on "Porro's Operation." In the section of Therapeutics there was a good discussion on the Uric Acid Diathesis, which was introduced by Dr. Burney Yeo. Dr. Quinlan gave a botanical and pharmaceutical demonstration on *Strophanthus*. In the section of Obstetric Medicine the adjourned discussion on Dr. Apostoli's paper was carried on by Drs. Imlach, Routh, and Steavenson. Dr. Halliday Croom's paper on "A Series of Fifty Abdominal Sections" was discussed by Drs. Barnes and Atthill, Professors Wallace, Kend, Smily, Grigg, and Routh. In the section of Public Medicine a long discussion took place upon a subject raised by Dr. Donnelly, "The Influence of Modern Preventive Measures on the Prevalence of Infective Diseases." Dr. Thorne read a paper on "Sea-borne Cholera: British Measures of Prevention *versus* European Measures of Restriction." S.

PROGRESS

A MEDICAL MAGAZINE. ISSUED MONTHLY

DUDLEY S. REYNOLDS, A. M., M. D., EDITOR.

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THROUGH TICKETS TO THE CONGRESS.

In arranging for the transportation of delegates to the Medical Congress, which meets in Washington, D. C., September 5th, it is the purpose to sell straight tickets to Washington, and furnish a certificate entitling delegates to one third fare returning.

The Chesapeake & Ohio is the natural route from Louisville to Washington. It is the only line running solid trains between the two cities, and the only line with Pullman sleeping cars. The Pullman car commends itself above all others, as it is better ventilated than other cars, and more attention is paid to cleanliness.

The track of the Chesapeake & Ohio is laid with heavy steel and is stone-ballasted from one end to the other, being entirely free from dust. The scenery through the Virginias is unequalled for beauty and variety. It is particularly grand through the New River Canons, and in crossing the Alleghany and the Blue Ridge Mountains.

There are many points of interest along the Chesapeake & Ohio well worth visiting. White Sulphur Springs is immediately on the line, and there are innumerable other resorts within a few miles of it, reached by first-class country-roads.

Those who desire running down to Old Point Comfort, which is reached by Potomac River Steamer, can buy straight

tickets to Washington and obtain a certificate which will be honored for return passage from Old Point at about the same price as from Washington. Sleeping car reservations can be made in advance by applying at the city ticket office, 253 Fourth Avenue.

A WAX MODEL.

The magnificent wax model received by express from a friend in the East has been carefully preserved, in hope it might some day be useful, turns out to have been originally designed as the subject of a toast. It is beautifully fashioned, of perfect symmetry, and a wonder to behold. No one who saw it could venture a guess as to the subject meant to be illustrated by the artist, until Professor Palmer suggested that it was intended to score the game of *seven-up*; a game in which a certain gentleman, soon to be toasted, excels all competitors.

EXAMINING

BOARDS.

If the legislative authority would permit the medical profession to choose the members of examining boards, we should again have the old cry of sectarian partiality and persecution. So, after all, it may be best just to let matters stand as they are, and let the medical profession, most interested, make public the character of examination required by the lawfully constituted boards. There are very few officials who are willing to brave public criticism of their official acts. So, by force of public sentiment, approximate justice will at least be done. The profession in West Virginia, instead of denouncing the Governor, had better spend its time in public criticisms of the methods of that board, the ignorance of whose members, it is said, will bring disgrace to the State. Lawyers are not permitted to choose judges of the courts, even of equity. The qualifications of a judge of law and equity can not be determined by the common voter any more than the qualifications of a practitioner of medicine, yet the people elect the judges;

and it is not so bad after all if some governor should make an ass of himself by appointing an ignoramus to a place on a State Examining Board to determine the qualifications for the medical practitioner. Let us all agree to submit quietly to the powers that be, and trust to our ability to convince the public that ignorance is not a qualification for a public functionary. In this way alone may we hope for that gradual advancement which an educated public sentiment must eventually bring about. In short, as we can not control the appointment of examining boards, let us endeavor to create a more intelligent public sentiment, which we must all recognize as the final tribunal before which public officers must be tried.

SPECIALISM IS
OBJECTED TO.

Our erudite friend, Dr. McIlvaine, of Peoria, puts on his war paint at Dr. Wathen's address on specialism. He accuses Wathen of making a plea for specialism, and a demand for the support of the specialist by the general practitioner. McIlvaine says very many general practitioners enucleate eyes, extract cataracts, divide rectal strictures, perform abdominal sections, etc., and with as good results as the average specialist. Dr. McIlvaine forgets who taught these general practitioners how to extract cataracts, when and in what manner to divide rectal strictures, and how to perform abdominal sections.

The objection has often been urged that the specialist claims more knowledge than the general practitioner. Well, the truth is, and it had better be told right now, specialisms are accomplishments in medicine. None but general physicians are qualified to undertake the acquirement of the accomplishments, and the man in general practice who is able to perform abdominal section is a man of more than average talent, and the extent to which he does general practice may easily be narrowed within the limits of his personal gifts and acquirements.

It is not the wide-awake, thorough-going,

zealous student and worker in the ranks of general medicine that Dr. Wathen's address on specialism undertook to score, but the man who is content to sit down and treat belly-aches after the rules laid down by Flint, without ever stopping to inquire more deeply into their cause than the general symptomatology would readily suggest.

Specialism does not require the support of the general profession. Per contra, all the excellencies of acquirement which the general medical profession can boast of have grown out of the penetrating research and experiment of workers in special fields. If Daviel had wasted his time treating fevers and general systemic diseases, he never would have reaped immortality in his grand achievement of success in the extraction of cataracts, an operation which to be successfully done requires a well-trained mind, a clear eye, and a steady hand. If any general practitioner possesses these qualifications let us congratulate him, and set him above the common bumpkin who thinks people catch cold, and that their livers are torpid, because he does not know what else to say when asked by the patient, "What ails me, doctor?"

Brother McIlvaine, you are simply mistaken. It is the specialist who does all the original work in the profession, and you must not forget that the treatment of general systemic diseases is a specialty adopted by a world of ignoramuses called general practitioners. With a few honorable exceptions, these men add nothing to science, nor do they ever add improvements to the art of that which they are pleased to call general practice. It was the specialist in pathology who discovered the cause of tuberculosis. It was the specialist in surgery who taught the world how to lay open the abdominal cavity with safety. Wathen's sledge hammer has evidently been felt, and we may soon expect to hear that the so-called general practitioner, with becoming modesty, has at last come to a realization that he is not master of all the specialties in medicine.

THE INTERNA-
TIONAL CONGRESS.

The International Medical Congress will be attended by a large delegation from Kentucky and the South. St. Louis has made extensive preparations, and engaged a special train, which leaves that city on the morning of September 2, going by way of Cincinnati, over the O. & M. and the B. & O., reaching Washington on Saturday, the 3d of September, at 1:15 P. M. The C. & O. offers favorable terms, and will, no doubt, carry a large share of the delegation from along its line. We direct attention to the announcement of the C. & O., and have been requested to say that the O. & M. train from Louisville at 2 P. M., on the 2d of September, will unite with a special train from St. Louis at North Vernon, carrying both the Louisville and St. Louis delegations with such additions as are made up from Indianapolis and other points. Railway people are especially active in their efforts to oblige the medical profession, and encourage those who may desire to attend the Congress by extending the time for returning at the reduced rate until the 20th of September, thus enabling those who may so desire to go to Old Point Comfort, or to White Sulphur.

DR. JOHN OLDHAM
GOES TO
LEXINGTON.

Dr. John Y. Oldham, an accomplished young gentleman, who has for several years been chief of the Eye and Ear Clinic at the Hospital College of Medicine, and assistant in the office of the Editor of PROGRESS, will, about the 1st of October, proximo, engage in the practice of his specialty, ophthalmology and otology, at Lexington, Ky. Dr. Oldham is an earnest and devoted student, a gentleman of great skill and ability in his profession. We predict for him a brilliant career, and congratulate the public and the profession at Lexington upon the tide of fortune which has carried to their midst one so full of promise and so worthy of their confidence and support.

THE PRESS
BANQUET AT
WASHINGTON.

The banquet of the Association of American Medical Editors promises to be a brilliant affair. It is tendered to the editorial fraternity from abroad; and every member of the profession of journalism in the United States should be present and take part. Unfortunately in this free country there are always to be found a few sulking upon the outside and decrying what they are pleased to call "junketing." Now, the wearisome hours spent in editorial labor bear heavily upon the constitution, and must be counterbalanced by at least a few brief moments of conviviality and social joy. The compliment of an invitation to this banquet has been extended, in a few instances, to distinguished scholars outside the editorial fraternity. The whole number of invitations printed was limited to three hundred, including the members of the Association and their foreign guests. So the company is to be in every way select, and the occasion one of the most joyous.

Many of the journals which have done their best to cripple the Congress will be represented.

THE LIBRARY OF
THE SURGEON-
GENERAL'S
OFFICE.

The great library of the Surgeon-General's office of the U. S. A. is at last going into the fire-proof buildings provided for its especial use on the grounds of the Smithsonian Institute. The work of removal is expected to be completed by the first of September. Nowhere else may so valuable a collection of books be found as in this library. Dr. J. B. Marvin advertises his willingness, for small compensation, to make extracts and translations from any of the books contained in this library, or from the Congressional Library at the National Capitol, promptly, for all those who may desire such work. Dr. Marvin is, no doubt, well qualified for the business he has undertaken.

PROGRESS

A Monthly Magazine for Students and Practitioners of Medicine.

"I HOLD EVERY MAN A DEBTOR TO HIS PROFESSION; FROM THE WHICH AS MEN OF COURSE DO SEEK TO RECEIVE COUN-
TENANCE AND PROFIT, SO OUGHT THEY OF DUTY TO ENDEAVOUR THEMSELVES, BY WAY OF AMENDS, TO BE A HELP AND
ORNAMENT THEREUNTO. THIS IS PERFORMED, IN SOME DEGREE, BY THE HONEST AND LIBERAL PRACTICE OF A PROFES-
SION; WHEN MEN SHALL CARRY A RESPECT NOT TO DESCEND INTO ANY COURSE THAT IS CORRUPT AND UNWORTHY THEREOF,
AND PRESERVE THEMSELVES FREE FROM THE ABUSES WHEREWITH THE SAME PROFESSION IS NOTED TO BE INFECTED; BUT
SUCH MORE IS THIS PERFORMED, IF A MAN BE ABLE TO VISIT AND STRENGTHEN THE ROOTS AND FOUNDATION OF THE
SCIENCE ITSELF; THEREBY NOT ONLY GRACING IT IN REPUTATION AND DIGNITY, BUT ALSO AMPLIFYING IT IN PROFESSION
AND SUBSTANCE."—BACON.

VOL. II.

LOUISVILLE, KY., SEPTEMBER, 1887.

No. 3.

GENERAL MEDICINE.

COLLINSONIA

CANADENSIS.

BY

JOHN V. SHOEMAKER,
A. M., M. D.,

OF PHILADELPHIA.

Read before the Section of
Therapeutics of the Ninth
International Medical
Congress, at Washing-
ton, September,
1887.

Collinsonia Cana-
densis, commonly
known as stone root
or knob root, is one
of the most valuable
of indigenous Ameri-
can medicinal plants.

It is widely distrib-
uted, being found in
richly wooded soils,

from April to October, in all sections of the
United States.

It possesses a rank aromatic odor, and is
hot and somewhat pungent to the taste. Its
principal medicinal constituent appears to
be a volatile oil, which is driven off by boil-
ing or drying.

All parts of the plant may be used in
medicine, but the root is the most powerful,
and the portion usually employed. As it
yields its virtues to water and alcohol, it may
be administered in the form of a powder, or
as the tincture, the fluid extract, or the in-
fusion. The dose of the powdered root
varies from ten to sixty grains; that of the
tincture from twenty drops to two drachms;
the fluid extract from fifteen minims to a
drachm; the infusion from one to four
ounces.

The physiological action of *collinsonia* has
not been accurately studied. Small doses
do not appear to produce any effect upon
healthy persons, except a sensation of
warmth in the stomach and bowels; large

doses produce diaphoresis and nausea, fol-
lowed in some cases by repeated but pain-
less vomiting.

Collinsonia is highly esteemed in many
sections of the country as a domestic reme-
dy for gravel and other urinary affections.
Clinical observation indicates that its power
is not limited by any means to this class of
disorders.

It appears to be especially valuable as a
sedative and anti-spasmodic. It is also pos-
sessed of considerable astringent and tonic
properties. The popular belief in its effi-
cacy in promoting the expulsion of urinary
calculi is well founded. It relaxes the spasm
of the ureters or of the urethra, and by in-
creasing the flow of urine, and by lessening
the sensitiveness of the genito-urinary mem-
brane, facilitates the expulsion of small con-
cretions. When they are of large size *col-*
linsonia is powerless to either dissolve or
expel them, but it will alleviate the sufferings
of the patient by diminishing the irritability
of the bladder and urinary canal until com-
plete relief is afforded by surgical methods.

Acute cystitis can be more quickly relieved
by *collinsonia* combined with aconite and
morphia than by the administration of any
other remedial agents. In two cases of this
painful affection treated by me during the
last four months in this manner, the patients
were free from pain and fever on the fourth
day and discharged cured, one on the eighth
and the other on the eleventh day. Cases
previously treated without *collinsonia* invari-
ably lingered from two to three weeks, and

suffered for six or eight days from pain and vesical tenesmus.

I have not had an opportunity to try this remedy in chronic cystitis, but reasoning from analogy it should be similarly efficacious in that tedious and troublesome affection.

Incontinence of urine in children, due to spasmodic contraction of the bladder, can be permanently relieved by the administration of one drachm of the tincture of collinsonia after supper and at bed-time for several nights in succession.

Nervous individuals, who may or may not have suffered from gonorrhea, not unfrequently complain that one or two minutes after having urinated and readjusted their clothing several drops of urine will involuntarily ooze out, staining their clothing, and producing an unpleasant odor which they imagine every one around them can perceive. This trivial but annoying affection is due to hyperæsthesia of the prostatic urethra or of the neck of the bladder, and can be effectually removed by the persistent use of the fluid extract of collinsonia in twenty-drop doses four times a day. In chronic gonorrhea, when cupaiba, cubebs, and oil of sandalwood have failed to arrest the discharge, or have been rejected by the patient's stomach, drachm doses of the fluid extract of collinsonia given every four hours will not infrequently effect a cure. Leucorrhea and prostatorrhea may be relieved or cured in the same manner.

Constipation, hemorrhoids, rectal neuralgia, and vague pelvic or abdominal symptoms, are due more frequently than is generally supposed to spasm of the sphincter ani. Dr. J. M. Matthews, of Louisville, Kentucky, has shown that prompt relief can be obtained in such cases from division or forcible dilation of the refractory muscle. My experience, though limited to three cases, leads me to believe that the persevering employment every night of suppositories containing from forty to ninety grains of the powdered collinsonia root will in many cases render any operative procedure unnecessary.

The first patient was a woman forty-five years old who suffered for years from darting pains in the rectum, especially severe just before defecation. She had visited numerous celebrated springs, and consulted several regular and irregular physicians without obtaining marked relief. When she placed herself under my care, I instituted a general tonic, anti-neuralgic treatment, combined with suitable laxatives. Her general health improved almost immediately, but the local disorder remained stubborn. Finally, suspecting the existence of an anal fissure or ulcer, I made an examination of the rectum, but discovered nothing abnormal but the vice-like grasp in which the finger or the speculum was held by the sphincter muscle. Suppositories composed of opium, opium and belladonna, opium and quinine were then ordered in succession, and successively failed to more than temporarily relieve. I then decided to either divulse or incise the sphincter, but being desirous to ascertain the relative merits of the operations, I ordered her as a placebo four suppositories, each containing thirty grains of powdered collinsonia with instructions to use one every night as usual. To my surprise and gratification the patient appeared at my office two days afterwards, and informed me that "the last cartridge" which I had ordered for her had given her so much ease that she used two a day instead of one, and wanted more of the same kind, as she was convinced that I had found "the right cure at last." I questioned her closely, and found that her relief was genuine and not assumed, and that it began within an hour after using the first suppository. I then ordered eight more, containing forty grains each instead of thirty, and directed her to use one night and morning. She returned on the sixth day, and told me that after having used five she felt so well that she did not think it necessary to finish the rest. The improvement was complete and permanent. During the year and a half that has elapsed since then she has consulted me twice for other trou-

bles, but the rectal pain has never reappeared.

The second case was a woman, thirty-five years old, and was similar to the preceding one, and was cured in a week by collinsonia suppositories.

The third case was that of a young man, nineteen years old, who suffered from violent headache every second day. Inquiry revealed the fact that the headache was almost invariably accompanied by a feeling of weight in the abdomen, and a desire to defecate, which could only be accomplished by much straining and repeated efforts extending sometimes over a period of from twenty to forty minutes. At the expiration of that time a large evacuation of the bowels usually occurred, followed by the immediate disappearance of the sense of weight in the abdomen, and the gradual cessation of the headache. The patient had taken all the varieties of pills in the market without any appreciable benefit, except when they left his stools thin and watery.

As defecation was not preceded or accompanied by pain, and usually relieved the other symptoms, I concluded that there was no ulceration or fissure present, and that the trouble was due solely to spasmodic stricture of the sphincter ani. I ordered him four suppositories containing one drachm each of powdered collinsonia, one to be used each night at bed-time. He returned in four days as bad as ever, and inclined to doubt the value of "those things." I encouraged him to try again, and ordered six more, each containing seventy-five grains. I did not see him again for two weeks, when he came back and stated that when he had used four he felt so good that he threw the other two away, but that the trouble had returned and was now worse than ever. I then ordered eight suppositories with ninety grains of collinsonia in each, and directed him to use one every second night regardless of how well he might be. He obeyed these instructions faithfully, and during the five months which have since passed by he has

not had any symptom of his former troubles. It is more than probable that vaginismus or spasm of the sphincter vagina can be readily and safely relieved, without resorting to the ludicrous or painful methods narrated in the text-books, by the continued employment of vaginal suppositories of collinsonia, opium, belladonna, chloral, conium, hyoscyamus, or stramonium may be added if advisable. The anti-spasmodic properties of collinsonia render it of value in flatulent colic, infantile colic, and biliary colic. It is especially serviceable in the latter affection if given in the form of warm infusions so as to thoroughly relax the biliary passages and facilitate the onward movement of the irritative calculi.

The most available preparation in colic is the tincture, the dose of which ranges from ten drops to half a drachm for children, and from one to two drachms, frequently repeated, for adults. Collinsonia alone will be found quickly curative in many cases of colic when unaccompanied by rise of temperature. It will not relieve lead colic, or the pain of peritonitis or entero-colitis.

Collinsonia has proved curative in my hands in two cases of gastralgia in which morphia, cannabis indica, belladonna, and various other remedies only gave temporary relief. I also obtained markedly beneficial results from its use in five cases of dysmenorrhœa. Each patient was directed to take half a drachm of the fluid extract three times a day for a week before the appearance of the menses, and two drachms of the tincture every four hours during their continuance. In the first and fifth cases the pain, though previously severe, was not noticeable; in the remaining cases it was so much lessened that the patients pursued their daily avocations as usual, one as a seamstress, one as a saleswoman, and the other as a telegraph operator, instead of being compelled to stay in bed for two or more days.

Ordinary colds and mild attacks of lumbago can be quickly broken up by taking a cup full of a hot infusion of collinsonia at

bed-time. Spasmodic croup can be immediately relieved by the same means.

Collinsonia is an effective remedy in relaxation of the uvula chronic pharyngitis and hoarseness dependent upon a lack of tonicity of the vocal chords. The fluid extract may be given in these affections in half drachm doses four times daily, and employed also as a gargle when diluted with four times its volume of water. It is also of value in gastro-intestinal catarrh and the catarrhal gastritis of beer and alcohol drinkers. It lessens the desire for liquor, restrains the secretion of mucous and restores the normal tone of the alimentary canal, and reinvigorates the depressed nervous system.

Collinsonia is equal, if not superior, to cinucifuga in the treatment of chorea, and may be substituted for arsenic with advantage in many cases of that disease occurring in infancy and early childhood. In three cases recently treated with collinsonia, all traces of the disease disappeared in from two to four weeks. It is but fair to state that the same remedy failed to make any impression on two previous cases.

Collinsonia will be found palliative, if not curative in whooping cough, and may safely be given in that affection without the dread of disordering the stomach or producing any other unpleasant symptoms. It may also be given with confidence in nervous cough and the irritative cough of pharyngeal catarrh.

Collinsonia is also of value in moderate doses as a mild but certain general tonic, increasing the appetite, promoting digestion, and gently stimulating all the organs of excretion. It may be given with decided benefit in anemia, chlorosis, incipient phthisis, and convalescence from the various eruptive fevers.

Externally it constitutes an excellent application to contused and incised wounds. Indolent ulcers may be stimulated to healthy action by an ointment consisting of one drachm of powdered collinsonia and one ounce of fresh lard. Ascarides may be effectually destroyed by rectal injection composed of fluid extract diluted with four parts of water.

GENERAL SURGERY.

STONE IN THE BLADDER. AN OBSCURE CASE.

BY

J. Mc F. GASTON, M. D.

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Southern Medical College,
Atlanta, Ga.*

Read to the Mississippi
Valley Medical Association,
at Crab Orchard
Springs, Ky., July
15, 1887.

In the spring of 1886 a gentleman about sixty years of age, presents himself for examination, with symptoms indicating the existence of stone in the bladder. Upon using the sound with urine in the bladder, and after drawing it off,

no calculus was detected, but a considerable enlargement of the prostate gland afforded a probable explanation of the vesical trouble, and he returned home to continue under the care of his family physician, Dr. W. V. Reynolds.

Being called, subsequently, to witness an explanation by his attendant, fully three quarters of an hour was spent in searching for the stone without getting any evidence of its existence, though it had been found previously. On another occasion, however, the examination was renewed by the same faithful and, it must be said, skillful practitioner with conclusive proofs of the presence of a calculus, in the clear clicking sound by striking it with the sound, and in the characteristic impressions received from moving the sound over the surface while in my own hand afterwards.

Subsequently we examined the case together on several occasions, and became satisfied that the stone was encysted and almost entirely covered, becoming eventually shut in so as not to be discovered by the sound. The prospect of relief by the suprapubic operation was considered as the most feasible operative measure, and yet, finding that the vesicle irritation had diminished, while there could be no accretion of the deposit if the calculus was completely covered by the adventitious tissue, it was thought most prudent to await further developments in the case. Upon our last exploration, towards the close of the year, I was confi-

dent that the outline of the stone was defined in passing the finger into the rectum, while a sound remained in the bladder, and that it occupied the space between the pubic bone and the prostate gland. The sound in the urethra was felt distinctly encircling a hard globular body, and on thrusting the finger forward aroused this mass, its spherical outline was felt behind the pubic bone. Thus the stone, lying in the anterior and lower portion of the bladder, was touched by the point of a sound having the form of Thompson's searcher, while it could not be detected with the ordinary sound having a much larger curve on my first examination, and was not discovered by another skillful surgeon who had also carefully explored the bladder.

Upon declining to operate, the patient came under the care of Dr. K. C. Divine, of this city. He reports that the vesicle irritation was so great that he did not attempt to use the sound for several days, and finding the meatus an interference with the movements of the sound, it was enlarged, on May 14, with a view to facilitate free exploration. With the assistance of other colleagues a thorough examination of the cavity of the bladder with Thompson's searcher, was then made, in various positions of the buttocks, and with the injection of water in addition to a small quantity of urine contained in the organ. The evidence of stone was not clear, yet it was thought that the sound came in contact with a solid body, while click and grating sensations were absent.

In view of the unmistakable indications of the presence of stone afforded by the exploration of Dr. Reynolds in my presence, I did not hesitate to assure Dr. Divine of its existence, but most likely in an encysted state, as we had failed to discover the stone in our later explorations, even when the patient was under the influence of an anesthetic. Considering the advantages of drainage for the muco-purulent discharge by a perineal section, Dr. Divine concluded that the lateral operation was preferable, but in

the meantime the case passed into other hands.

Having ascertained that the patient had sought the services of Dr. J. H. Brinton, in Philadelphia, with an untoward result, I wrote to him. In answer to my request, Dr. Brinton has given the following details of the case, dated July 7, 1887:

"Mr. McClatchy, aged 67, presented himself to me with symptoms of stone. By the sound I found a very contracted roughened bladder, very sensitive, capable of holding only an ounce or so of urine. With a sound of small curve I could feel no stone; with a large staff I detected a calculus, apparently partially encysted at bas-fond of bladder. I performed the lateral operation without difficulty, prostate enlarged and calculus extracted with difficulty, apparently in consequence of its encystment—no bleeding of consequence—operation finished promptly. For twenty-four hours he did well, and reacted satisfactorily. On the third day he gradually sank from exhaustion. At the time of operation he was weak and was constantly straining to pass urine. He told me he had this stone for twenty-two years, since 1865. He was almost worn out when I saw him. As the body had to be sent by express to Georgia, no post-mortem was made. I extracted two stones of good size and three small ones of the size of a pea, total weight 480 grains; uric acid nucleus, with phosphate surroundings."

Upon comparing the observations in this case it will be noted that there is an apparent discrepancy between the indications of an encysted stone in the anterior cul de sac of the bladder revealed by the sound and other modes of exploration to Dr. Reynolds and myself, and the report of an encystment in the bas-fond or posterior cul de sac by Dr. Brinton. But this may be reconciled by the existence of two stones of considerable size which were dislodged on the occasion of the operation with difficulty. That we should have failed to detect the

stone with a sound of large curve, when it was discovered alone with this instrument by Dr. Brinton, is totally inexplicable, in view of the fact that our examinations were made with the bladder distended by eight ounces of fluid, while its capacity was reduced to an ounce or so when his examination was made. The most remarkable feature of the case, however, was the difficulty in recognizing the presence of concretions by any mode of exploration when there were five distinct calculi in the bladder, and the only solution is that they were contained in pockets of the irregularly contracted bladder.

REMOVAL OF CANCER OF THE RECTUM.

A NEW METHOD.

BY W. ALEXANDER,
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[*Liverpool Medico-Chirur-
gical Journal.*]

Cancer of the rectum has within the past few years come more and more within the range of legitimate operative surgery. The mortality after carefully-selected operations is, considering the serious nature

of the disease, comparatively small, being about 17 to 18 per cent of the published cases (Cripps). This is, however, the minimum mortality. The real mortality exceeds this probably by several per cent. Of the thirteen fatal cases mentioned by Cripps in his work on Diseases of the Rectum, ten died from direct wound troubles, as peritonitis, cellulitis, erysipelas, pyemia, and suppuration, one from shock, and in one case the cause of death was not stated. It may therefore be said, indeed, that, practically speaking, all the deaths arise directly from the immediate after consequences of the operation, and that if we could improve the operation so as to eliminate these fatalities, the gain in saving life will be about one fourth of the cases operated on.

In cancer of the anus, or lower part of the rectum, where the disease can be easily reached, and where the mucous membrane of the healthy bowel can be stitched to the

skin, there is really no wound trouble, and when the operation is properly performed no mortality. In an old lady that I operated on last summer, the skin and mucous membrane joined by the first intention and the wound trouble was absolutely *nil*. I saw her about two months ago, and found the rectum quite healthy, and the new anus partially capable of retaining the motions, the want of control being only felt when she had diarrhea. Her inguinal and iliac glands were now extensively affected, and the malignant cachexia was showing itself, but the *prima via* was clear from disease. At the time of operation the inguinal glands were slightly enlarged.

It is rarely the case that hospital surgeons meet with cancer of the rectum in an early stage. The disease is mostly mistaken for piles, and patients treat themselves, or are treated by anti-hemorrhoidal remedies until the gravity of the disease can no longer be ignored. Then it is generally found to be beyond the possibility of extirpation, without at least serious danger to life. Many a time I have withdrawn my finger with disgust from a rectum where the disease went beyond my reach, and where a radical cure was out of the question by the methods of operation then in vogue; and the only choice lay between colotomy or morphia.

Colotomy is not a *very* serious major operation, and when performed for cancer of the rectum often puts the patient into a state of comparative comfort, as far as the passage of feces over the raw surface of the diseased bowel is concerned. It is at best only a miserable refuge. I have at present in hospital a poor fellow upon whom left lumbar colotomy was successfully performed at a neighboring hospital several months ago. The artificial anus acts very well, but the pain in the pelvis is as great as ever. The patient requires morphia, and craves for ever increasing doses. He begs to be operated on, no matter how great the risk, if by that means the disease could be removed, as he would prefer death a thousand times

to his present state of torture. The cancerous growth is now protruding from his anus, and so painful that he calls my attention to it every time I see him; and when I go near to examine it he trembles and begs me not to touch it.

A colotomy I performed some years ago was slightly benefited as regards the pain, but I had no pride in being able to prolong the life of a man who was always upon the rack, except when under opiates. Some colotomies for cancer, no doubt, give greater temporary relief than in these two cases, especially when performed in an earlier stage of the disease; but the inducement to undergo the operation is small, and the disappointment to hospital patients is always extreme. They can not understand—and it is a cruel process to make them understood—before a colotomy, that their disease is of necessity fatal in a few months, and that the proposed operation is merely to relieve pain, and probably to stay a little the active progress of the disease.

It is only fear of the final agony that prompts any individual to accept such an operation. Otherwise, any operation that hastens the *denouement* ought to be more welcome than one that prolongs the misery, and treatment by opiates is often more justifiable than colotomy. It does not tend to prolong a miserable existence, and it renders that existence as bearable as it can be made.

The disappointment after colotomy is extreme when once the patient realizes that his prospects of getting rid of the disease are no better than before. When, however, we attempt the complete removal of the disease, or propose a method of total extirpation of a cancer of the rectum, then hope for the future prospects of success and of freedom from pain, and chances of non-recurrence, raise the patient's spirits and prompts him to undergo the most serious risks for their sakes. He naturally desires either death or life instead of the purgatory of the middle state of a patient with a cancerous bowel.

Some such considerations as the above have been passing through my mind at intervals for some years, and were first made to take practical shape by a patient that Mr. Puzey sent to the workhouse on January last. He was forty-two years of age, and accustomed to the heavy work of a laborer to a fishmonger. He does not know anything about his father; his mother died of dysentery; and an only brother is still alive. He is the father of five children—four sons and one daughter. Patient says he always enjoyed tolerably good health until twelve months ago, when a ton of fish fell upon the lower part of his back. He did not appear to have sustained much injury at the time, and most probably his illness had nothing to do with the injury, although he ascribes this disease to it. Two months after, at any rate, his back became painful, and he passed a quantity of blood with every motion. He suffered a great deal of pain, and became paler and lost flesh, until the New Year, when he was reluctantly compelled to give up work. He applied at the Northern Hospital on January 24, and came to the workhouse on January 26, of the present year.

Patient is anemic, with characteristic cachectic pallor of lips, occasional attacks of diarrhea, and complains of great weakness and prostration.

A fungating foul-smelling mass protrudes from his anus, and the interior of the rectum, as far as my finger can reach, is rough, irregular, ulcerated, and fetid. However, with the patient under chloroform, the tip of my finger, when well pushed up, could just reach the limit of the diseased mass, that is at a distance of about four inches from the anus. Some abdominal glands appeared to be slightly enlarged, but not to any decided extent. The inguinal glands were not enlarged. All the organs of the body appeared to be quite sound. Mr. Puzey had generously sent the case to me to perform colotomy upon, thinking it to be only fair that, as I should in all probability

in any case have to watch the patient until death, I should have the privilege of performing the operation. I quite agreed with Mr. Puzey that colotomy was the only operative resource, according to our hitherto customary methods of operating, and that to attempt to remove all the disease in the ordinary way, and leave a long sinus, through which the feces would in future have to pass, would be to seriously endanger the patient's life. Another method was open by which to treat the case, viz., to perform a colotomy, and when the artificial anus was in good working order to excise the rectum, and leave the track to heal uninfluenced by the passage of feces. The advantages of this method of treatment is more apparent than real—more theoretical than practical. Even with an artificial anus some feculent material always finds its way into the bowel, and tends to poison the wound nearly as much, if not quite as much, as if the whole of the feces passed this way. Even were this not so, the secretions from an old sewer like the rectum would, in such cases, still tend to poison the wound, and this fact, together with the increased dangers of the double operation necessary to the removal of the cancer, puts such a proceeding out of question, at least on patients whose stamina is already weakened by disease. For these reasons I decided to remove the disease and stitch the bowel to the skin.

To do this something must be sacrificed. The coccyx could be easily dispensed with, and its removal has been already recommended to facilitate operations for congenital malformations of the rectum by Cripps, if not by others. Its removal would not, however, be sufficient, and a piece of the sacrum would also require removal. Now the lowest two sacral vertebræ could be removed without depriving the patient of anything that he would miss, and such a removal would allow us not only to reach the healthy bowel in most cases of cancer of the rectum, but would permit the attachment of the healthy bowel to the skin in a position

as near the natural position as possible, and with all the conveniences, advantages, and sentiments that surround the natural position.

In my present case I removed only the last piece of the sacrum, and had ample room, so that I could have removed a quarter of an inch more of the bowel. I shall not describe the particular operation, but the general method of performance as deduced from this case, and from several previous operations upon the cadaver. I may say here that the operation is a serious one, only to be undertaken after practice, and by a surgeon who has a practical acquaintance with all the important pelvic viscera, their blood-vessels and nerves.

MODE OF PER-

FORMING THE
OPERATION.

The patient being anesthetized is to be placed in the lithotomy position in a good light, and with his buttocks well raised, and projecting over the edge of a hard pillow placed under the loins. A Mackintosh should protect the pillow, as well as the end of the table, and be so arranged as to conduct any blood that may be lost clear of the operator's knees. A very large sponge placed beneath the back, and changed from time to time, is very useful. The scrotum is to be raised, and held out of the way by an assistant, who should also be prepared to pass a catheter into the bladder, should the operator require it during the operation. Then the perineum should be shaved, and thoroughly cleansed with a solution of perchloride of mercury (1 to 1000). The rectum, that should have been well emptied before operation, should now be plugged with cotton-wool to such an extent as to entirely prevent any outpouring of feces. When all these precautions have been taken, the knife is placed on the tip of the coccyx, and an incision, penetrating well into the subcutaneous tissues, is made from that point forward till it arrives at a convenient distance from the anus, whence the knife should sweep completely round the anus till it

meets the wound already made. A number of bleeding points now require to be compressed, and the larger ones tied—only one or two on each side will require ligature. The incision is now to be extended along the middle line of the sacrum and coccyx till the level of the healthy bowel is reached, or until the level of exit of the fourth sacral nerve is closely approached. This extension of the incision should go well down to the bone. The sacrum and coccyx are now to be cleared, both posteriorly and laterally, from all their connections, the point of the knife to be applied very closely to the bone during this part of the operation. No vessels of importance are liable to be wounded; the only structure in danger is the rectum itself, as it lies in front of the bones. With the finger the rectum can now be cleared from the bones and held out of the way while a pair of bone forceps, or a saw, detaches the exposed bones from the rest of the spinal column. The healthy rectum should now come into view, or be capable of being pulled down posteriorly into view, and should be stitched in position by a suture passing through the serous coats and the skin on each side. Healthy rectum should, if possible, protrude beyond the skin to allow of the free evacuation of the feces well beyond the wound, the mucous membrane of the rectum being everted by the sutures that join the bowel to the skin.

After fixing the healthy rectum by a single stitch in the manner described, the anus should next be freed from its surroundings. The attachments of the levator and other muscles are to be cut through close to the rectum, and all bleeding points are to be compressed as soon as they appear. The longer ones should be twisted or ligatured, the smaller ones cease to trouble after a few minutes' compression. Laterally and posteriorly it is necessary to keep close to the rectum (but, of course, outside the diseased structures). This and the prompt stoppage of hemorrhage are the only code of instructions necessary in this

part of the operation. Anteriorly the membranous urethra comes into view, and is easily cleared. As we reach the anterior boundary of the prostate, a firm resistance is met with, and an appearance of no thoroughfare that might be mistaken for the peritoneum. A bougie or catheter passed per urethram will show the relations of that viscus to the rectum. The membrane just described should be divided horizontally in the middle line for half an inch, and just beyond the wall of the bowel, as shown by the catheter. The prostate now appears, and the finger inserted into the opening thus made can strip the rectum from the prostate and the base of the bladder all along the middle line. Lateral attachments still remain to be cut through cautiously with scissors, until the vesicula seminales, the vas deferens, and the ureters are seen. We now come upon the peritoneum, and if necessary it can, if great caution be used, be stripped with safety off the rectum for some distance, until the upper limits of the diseased mass have been reached.

I have removed six inches in the dead subject without injuring the peritoneum, except that it was puckered considerably into a pouch behind the bladder after the rectum was pulled down. The excessive wound is to be kept scrupulously clean by frequent ablutions of perchloride of mercury. Hitherto it has not been contaminated by feces, nor should it be so now. The rectum is to be held in position posteriorly, and the anterior part of the wound closed. To allow the sides of the wound to dip into the excavated perineum, deep sutures of strong silkworm gut should be passed through the margins of the wound from side to side at intervals of a quarter of an inch up to the margin of the retracted rectum, the last one passing through the serous coat of the healthy bowel. Then, all bleeding points being stopped, the limbs of the patient are to be extended completely, and his body turned well on either side. The sides of the wound now fall in and fill up the hollow,

leaving a fold between, like the nates. This hollow is packed full of iodoform gauze, through which three small drainage tubes discharge, after the silkworm sutures already in position have been firmly tied.

The end of the rectum is now stitched laterally by three silkworm sutures, and the diseased part cut off. Then the whole thickness of the coat of the rectum is sutured firmly to the skin around by numerous fine silkworm sutures, care having been taken to allow no feces into the wound during the stretching, and to stitch it so closely as to seal the wound completely for several days at least against any entrance of feces; iodoform is dusted over the gauze, and some cotton-wool placed over that, and the operation is complete.

The patient should now be placed in bed, with his legs extended, and either lying upon his side or on his back, and with some clean absorbent cotton-wool beneath or behind him. No bandaging is to be applied, except some strapping to retain the cotton-wool over the anterior part of the wound; the feces and discharges are allowed to pass away from and around the rectum, and are to be removed according to necessity. The cotton-wool over the gauze is to be changed about twice or three times daily to protect the gauze beneath, and the drainage tubes from becoming dirty. In three or four days the deep wound will have healed so far that the deep stitches may be removed. Fresh gauze and strapping are now applied as often as necessary to the anterior part of the wound until it is quite healed. The drainage tubes to be removed according to the ordinary indications.

Such was the operation that was performed on John Gavin, on February 2, 1887, at 11 A. M. The operation lasted three quarters of an hour, and the total quantity of blood lost was about five ounces. This escaped from the general oozing, the arteries being clamped or tied as we went on.

In the afternoon after the operation the patient said he felt nicely; lay very quiet,

with a pulse of 110°. Bowels moved thrice. The temperature in the evening, 99°. His morning and evening temperature during the seven days prior to operation was as follows: 99°.4, 100°; 100°.4, 100°; 99°.6, 100°.4; 99°.2, 99°.8; 99°, 100°; 99°, 99°.8; 98°.4, 98°.8. During the seven days succeeding the operation the temperature was as follows: 101°, 101°.4; 101°.6, 102°.4; 101°.2, 102°; 100°, 101°.4; 99°.8, 101°.6; 102°, 99°.4; 99°.8, 101°. After this the temperature went zig-zag, along the space between 98°.4 to 99°, only becoming quite normal at the eighth week.

On the fifth day my hopes of union by the first intention were destroyed by the patient getting out of bed to the night-chair. He said he felt so well that he thought it no harm to get up without disturbing the nurses, who were in another ward. By this indiscretion he broke open the anterior wound, and tore the mucous membrane of the rectum on the left side slightly from the skin. To prevent any septic poisoning, I now washed out the anterior wound daily by 1 to 2000 solution of corrosive sublimate, and filled it full of iodoform gauze, removing all the remaining stitches.

His bowels moved twice on the day of the operation, formed and hard feces had to be removed from the anus on the next day, and constipation succeeded until the 7th day, when five grains of calomel were given. This brought away a considerable quantity of liquid feces next day, and relieved the patient very much from the pressure of solid scybalæ in the lower bowel. On the tenth day the bowel was retiring from the skin at the spot where the stitches had given way. Some fresh ones were introduced at Dr. M'Murray's suggestion, and I believe they were very useful in keeping the bowel *in situ* until it had adhered to its surroundings.

The subsequent history resolves itself into nursing and keeping the anterior gap clean until it healed up by granulation, which it did very rapidly.

The diet after the operation was bread,

milk, beef-tea, soda-water, and four ounces of brandy daily. On February 6 he was allowed half a chicken daily to his dinner. This was changed on February 16 for half a pound of mutton.

On February 26 he sat up for the first time, although he had been craving to sit up before, but was forbidden lest he should hurt the wound. He felt quite strong, he said, and from this time went about, and could sit easily on any chair. He could retain his motion for several days; then he would have attacks of diarrhea that were easily checked by opium or bismuth.

On April 17 he left the hospital to return to his work, having promised to call once a week for some time so that any recurrence of the disease at the artificial anus might be removed immediately.

<p>CONCLUSION.</p>	<p>It may be said in regard to this operation that "one swallow does not make a summer," and the truth of the proverb in its present connection I am willing to admit. However, the great facilities afforded by the removal of the sacrum would enable as much rectum to be removed as may ever be necessary. The peritoneum is so well exposed that there need be no difficulty in carefully stitching it in those cases in which it must be interfered with, and so preserving the patient from septic infection. The piece of sacrum and coccyx removed are not missed in the least by the patient, so that nothing is sacrificed; and were it necessary I would not hesitate to remove another piece from the sacrum, and sacrifice the third pair of sacral nerves. Such a contingency is never likely to occur, as the most extensive disease, limited to the rectum, could be removed without. When other organs, such as the bladder, are involved, all operative procedures are at present unwarrantable. When the disease is limited to the uterus and rectum, this operation would be most efficient, as experiments on the cadaver have proved. I have not yet had an opportunity of trying it on</p>
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the living, but shall do so on the first suitable opportunity.

I have not met with any case in my reading, as far as I remember, where this procedure is recommended or described. Mr. Cripps mentions removal of the coccyx to facilitate, as I have already said, operation for rectal malformations in young children. A German has, I believe, brought the rectum out at the side of the sacrum, and made an artificial anus there; but I can not find the journal in which I saw the case a few weeks ago. I tried this method on the dead, but the ligaments, vessels, and nerves that are in the way on either side of the sacrum caused me to give it up before I knew that it had been done previously.

I do not know if the operation has been before performed or recommended, for my time for any other research but clinical is very small. Whether it is a new operation or a revival, I can strongly recommend it to the profession. It is a formidable operation, and will require preparation on the surgeon's part to ensure its safe performance; but it is a remedy for the most formidable, most painful, and most disgusting disease that flesh is heir to. My first patient is as yet a standing testimony to its efficacy. How long he will remain so is a question that the future will settle, but he has already enjoyed two months' happiness and ease, and is almost certain of enjoying many more.

<p>THE MEDICAL SOCIETIES</p>	<p>Are of great value to those members who work and compare re-</p>
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<p>sults; they are valuable to the practitioner who is too modest to speak, and who has not learned to write. They are like the literary societies in college. They create community of knowledge and unity of purpose. They do more toward diffusing practical information than any school, however perfectly equipped for teaching, yet the outsiders proclaim against societies, and find, after awhile, that they are like poor Othello whose occupation had gone forever.</p>	<p>work and compare re-</p>
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EYE, EAR, AND THROAT.

INSTRUMENTS
TO ASSIST
HEARING.

With Experiments Testing
the Hearing Power of the
Deaf Mute, and Observa-
tions on the Uses of the
Currier Ear Trumpets.

Read to the Section on Otol-
ogy of the Ninth Interna-
tional Med. Congress,
at Washington, D.
C., September,
1887.

BY
LAURENCE TURNBULL,
M. D.,

*Aural Surgeon Jefferson
Med. College Hospital,
Philadelphia.*

The first natural means of assisting the hearing was the human hand applied to the external ear, the thumb and forefinger around the ear, with the concave form of the hand so as to collect and retain a larger volume of sound. Then followed the various forms of natural shells, more especially the spindle-shaped,

which was supposed to resemble the ear, to which was added later a tube to fit the ear attached to the three natural turns with an additional piece for a pavilion. In one of these forms Itard introduced one or two membranes of goldbeater's skin (*Clinical Manual of Diseases of the Ear*, 2d ed., page 54), which idea has more recently been applied by Mr. Maloney, of Washington, D. C. These instruments are of a great variety of forms, but the basis of most of them is a tube of wood, glass, or metal, tapering so as to enter the ear. The latter, from its conductive as well as for its reflective power, is the agent most generally employed.

Of the metals used, tin is the one found to possess the greatest advantages, and in this form it is termed an ear trumpet. The length of the tube is of importance, as the deafer the individual the longer the tube required; but owing to its inconvenience, the long tube being in the canal, some care is necessary in placing it.

The following are the histories and results of the combined examination of deaf mutes by Prof. Crouter, Superintendent Pennsylvania Institution for the Deaf and Dumb, Philadelphia, and the writer:

Robert A. K. was born February 2, 1869, in Northumberland County, of hearing parents. He became deaf at the age of four

years from a severe attack of spotted fever; he has an aunt (father's side) who is deaf; no other deaf relations. Parents not related. This boy, while very deaf, is mentally bright and possesses a strong constitution. The examination developed the fact he is no way sensitive to sound conveyed to the ear by means of a trumpet; neither the single nor double trumpet affected him, not even slightly.

Kate A. B. was born May 10, 1869, in Centre County, of hearing parents. She has no deaf relatives, so far as can be learned; parents in no way related before marriage. This girl lost her hearing from spotted fever also when she was three years old. Her general health has always been good, and she is very bright and intelligent. With the metal (old style) trumpet she evinced considerable sensitiveness in the left ear; not so much in the right. The Currier instrument did not seem any more effective than the former. The opinion was formed that in this case, as in the former, there is not enough sensitiveness to sound to warrant any serious attempt at aural development.

Ida B. B. was born deaf, of hearing parents, April 26, 1866, in York County. Her parents are unrelated; she has a deaf brother, a congenital; mother deaf relatives; general health good; mental capacity much above the average. Much sensitiveness to sound was developed in this case; both instruments affected her very strongly, and as far as we were able to judge we think her a good case for aural training.

CASE IV.—*Case of Profound Deafness.*—May 24, 1887, George W. I., age thirty-three; address, Berlin P. O., Somerset County, Pennsylvania; a farmer, and had worked in a coal mine. Could only hear by some one shouting loudly close to him. Could not hear the tuningfork in the air or on the bones of the head. Had been subject to earache when an infant in left ear, and had pain since only when he had taken cold. The tinnitus aurium was very severe,

producing fearful noises. In the right membrana tympani there was a slight deposit at the handle of the malleus; the reflex was good, and color normal. In the left membrana tympani, the handle of the malleus twisted adhering to promontary at Shrapnell's membrane, but a good reflex at lower quadrant. The eustachian tube was not opened by valsalva or politzer, but by eustachian catheter. Vertigo severe at times. Catarrh from polypus in the nasal passage, and enlargement and hypertrophy of the turbenated bone. Naso-pharyngeal catarrh, throat and tonsils involved. Right ear being affected for about four years, the left from childhood; the cause being concussion from blasting coal, and not inherited. Constitution being fair, health good; is married, and has a healthy family.

The complications Minier's symptoms and the diagnosis—otitis media labyrinthine—remarks and treatment of the case are as follows:

When the patient walked into the office it was noticeable that he had a tendency to deviate from the perpendicular, showing that he had some disease of the semi-circular canal or cerebellum. On testing his hearing with the conversational tube, it seemed to produce pain, and he was unable to distinguish articulate words if the voice was much elevated, yet he could bear the loudest shout of his friend when he talked with him. Currier's double aural tube was then resorted to but with no better results; he could hear the sounds but they were confusing.

Mr. J. A. Maloney, of Washington, then tested his hearing by his double stretched membrane attached to a single tube, not passed in to the ear but held in close contact to the auricle, but the result was almost negative, as only once in a certain tone of voice did he catch three numbers, but no articulate sounds.

The treatment directed was the removal of the growths from his turbenated bones of a polypoid character, to be followed by the treatment for disease of the internal ear as

in chapter XXII, pp. 494 to 503, by the use of pilocarpine, etc. (See *Clinical Manual*, second ed., 1887.) These powerful ear trumpets will be found useful in a form of massage of the muscles of the ear, in a few cases, in the sclerotic form of chronic catarrh, with loss of elasticity of membrane, ankylosis of the ossicula, especially of the foot-piece of the stapes, and exostosis or hyperostosis of the same, but in his scrofulous or tuberculous disease of the ear with progressive deafness. Another form is benefited, it is in the rigidity of the malleus, incus, and stapedial joints, with diminished movements of the latter. These instruments should be carefully used each day from five to fifteen minutes, preceded by the use of Seigle's speculum, and where the individual is profoundly deaf, and unable to hear his own voice however elevated, the double tube will be found the best instrument.

In the use of the double instrument it has also been found useful by testing the hearing of those supposed to be entirely deaf. This should be done, as a large number of them can hear sounds, although they may not have sufficient hearing to have learned to speak through it. Nevertheless many such cases, after they have been taught articulation and to read speech upon the lips, seem able to be trained to a greater or less extent to understand the sounds which had previously been unintelligible to them. The plan with such cases has been to repeat sounds first, then short words, then longer ones, then sentences, until they can copy the sounds and repeat them. All this would seem to be a slow process, and the teacher has frequently been obliged to call their lip reading power to their aid in teaching them which sounds and words he is trying to make them recognize through the ear. In this system of training it has been found that the *Currier double ear tube* is of great value. As I have stated before that having two mouth pieces, one to be used by the pupil in conveying the attempts he makes

to copy the words his teacher is speaking into the ear, through the other it enables him to compare the sounds he makes with those made by the teacher. Speech learned through hearing is, of course, better than that through sight.

PHLYCTENULAR OPHTHALMIA.

BY

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Read to the section on Ophthalmology and Otology of the American Medical Association, at Chicago, June 9, 1887.

Phlyctenular ophthalmia is not only a generic term, but it unfortunately includes too wide a variety of affections to permit its use in our nosology; and I have decided, after some deliberation, to present the subject for discussion. To make myself understood, it will there-

fore be necessary to offer a somewhat elaborate explanation of the affections commonly called phlyctenular. In infants it often happens a few of the epithelial cells on the surface of the cornea are invaded, becoming swollen and opaque, presently break down, leaving a minute circular abrasion. The conjunctiva is generally but slightly suffused with blood, the eye is morbidly sensitive to light, with excessive lachrymation. In rare instances the eye is painful. In this form of the disease a single drop of the solution of sulphate of atropia, one eighth of a grain to the ounce of distilled water, is often sufficient for the cure. The disease being parasitic in its nature, the number of parasites being small, and the surface epithelium after invasion breaking down, when it is cast off the parasites are washed away. Another local circumscribed affection of the cornea arises from small wounds due to the projection of foreign bodies, such as grains of sand, or fragments of metal, cinders, etc., into the corneal epithelium. Persons so wounded are liable to have minute circumscribed points of suppuration corresponding to the injury. In such cases some obstinacy appears in the course of the disease. Al-

lowing that the general health of the patient is good, the gravity of the eye symptoms is often overrated, and if strong, stimulating colyria are used, the general irritation of the eye, with great increase of pain and photophobia, will speedily follow. If, on the other hand, each point of suppuration be sought out and a smooth silver probe, previously dipped into pure carbolic acid be pressed into the bottom of each excavation or ulcer, and a drop or two of a solution of atropia containing morphia be instilled, twenty-four or forty-eight hours brings on the period of convalescence. Cases of this kind, which have been neglected, eventually either perforate the cornea or become indolent ulcers. In such cases an application of the actual cautery has been followed by prompt recovery.

In the miasmatic or malarious districts it is frequently observed in the warm, damp seasons that chronic attacks of intermittent fever are attended by a species of phlyctenular keratitis, which presently becomes complicated with iritis, and presently the corneal inflammation becomes diffused, whilst at the point of origin flecks or sphacalus occurs, and adhesions of the iris follow. It is difficult, indeed sometimes impossible, to make the differential diagnosis between this and other forms of phlyctenular keratitis, to which I mean to devote some attention presently. In the purely malarious types, however, if the patient be seen in the first stage of the disease, it may be observed that the eye is morbidly sensitive to light, that the patient has a burning, dull, aching sensation, which is invariably located in the eyeball, and which seems to extend through the temple back to the occiput. A very slight haziness of cornea may be observed on oblique illumination. There is a free flow of tears and great intolerance of light. A few hours later the opacity of cornea may be noticed as more pronounced in certain areas. Presently whitish opaque points here and there in the substantia propria. Almost immediately after this, or simultane-

ously with the appearance of these points, the whole remaining portions of the cornea at once resume their transparency. A day later the opaque points may be observed very much enlarged, shading off into a gradual diminution of opacity into the clear cornea surrounding. The tension of the eyeball in such cases is always augmented during the whole course of the disease. It is interesting to note the effects of a purgative dose of calomel, followed by one decided dose of fifteen or twenty grains of sulphate of quinine. The calomel should be given in the forenoon, so as to insure a free action from the bowels during the day. The quinine should be given at night, the patient being instructed to eat something after swallowing the medicine, to go at once to bed, and not to arise for at least ten hours. In this way all the bad effects of the quinine are avoided; and in many cases of this form of phlyctenular keratitis if taken before the actual beginning of sphacalus, a single dose of quinine will, in twenty-four hours, arrest the disease. I have seen cases which had resisted all manner of local treatment yield within a few days to the action of quinine preceded by a dose of calomel. In some cases, however, and especially in those who have a superabundance of lymph, it may be necessary to administer the bichloride of mercury and the iodides. Recognizing this form of disease of the cornea as having its origin in an obstructed circulation in either the nutrient juice canals or the lymph channels of the cornea, we naturally incline to the use of quinine, mercury, the iodides constitutionally, and to pilocarpine locally. A grain of the muriate of pilocarpinia to the half ounce of distilled water seems in the chronic cases to add greatly to the clearing up of the infiltrated corneal tissue.

Now, I wish attention for a moment to what I conceive a typical class of phlyctenular diseases of the cornea and the conjunctiva, nearly always occurring in the limbus of the conjunctiva or near that point in the

cornea. These affections begin in the limbus of the conjunctiva as minute elevations of a yellowish-brown tint, surrounded with a small leash of dilated blood-vessels. There may be one large papule, or a large number, distributed around the corneal margin like a string of beads. These sometimes appear on the cornea in the same manner as elevated points, or papules of a yellowish-brown tint, surrounded by dilated blood-vessels. If permitted to go undisturbed each of these papules is destined to undergo degenerative changes of its central portion, and as the cells push into the center an excavation at the apex of the cone appears; and it may be easily seen with proper illumination and magnifying glass that the process is one of rupture of the lymph tubes, and an escape of lymph at the point of rupture causes the papular elevation. The pressure of the surrounding structures and the advancing current of fluid causes speedy disintegration of the central cells of the stagnant mass, and this is the way in which the ulceration occurs. This is a type of disease belonging exclusively to subjects of excessive accumulations of lymph in the system to the strumous subjects so-called. This condition has long been described as a type of scrofulosis. By Mr. Treves it is called "the scrofulous diathesis."

The truth is, lymphatic subjects may be the subjects of an inherited taint, but they are quite as commonly the victims of an acquired mal-nutrition. Subjects of these disturbances of the nutritive functions of the body, leading to the retention of lymph, whether it be produced in abnormal quantities or not, may be difficult to distinguish from those who inherit that tendency as a remote manifestation of syphilis, leprosy or tuberculosis. These people are likewise, in all respects, afflicted in the same manner as the progeny of uncongenial races of men, or of the union of near blood relations. In all these different classes of people there may be, of course, modifying abnormalities of nutrition or of development in certain

organs, which make it impossible for us at all times to discriminate between the classes. Fortunately, however, pathological anatomy comes to our aid in the establishment of the inevitable law of the inability of so delicate a membrane as forms the wall of a capillary tube, whether it be a blood tube or a lymph tube, to resist a constantly increasing pressure, and since in the phlyctenular ophthalmiæ of strumous subjects we have always to bear in mind the predisposing conditions or general lymphatic engorgement, the pathological anatomy shows rupture of the walls of the tubes, extravasation of lymph corpuscles or leucocytes. Now it is manifestly plain since the various types of phlyctenular disease, depending upon engorged lymph channels, require constitutional rather than local forms of medication, it is equally plain that so long as the predisposing cause exists we may expect frequent recurrences of phlyctenular disease; and, if we find that the predisposing cause is a form of acquired mal-nutrition, our efforts should be directed to searching out the nature of that cause and if possible removing it.

On the 26th of March, 1884, I had the honor to address the Sanitary Council of the State of Kentucky on the subject of "Food as a Cause of Disease," in which I pointed out a few facts bearing directly upon this question. It is to be observed that persons taking large quantities of saccharose into the stomach as food excrete considerable quantities of glucose, while if cane-sugar be dissolved in water and injected into the blood-vessels it escapes from the body without alteration. Hence, it would appear that cane-sugar or saccharose, although digested and converted into glucose in the alimentary canal, may be absorbed and carried into the general system unchanged. It has been further shown that although normal quantities of glucose may be absorbed and introduced into the general circulation it may escape with the renal secretion. This applies, of course, to the form of glucose resulting in the ordinary processes of digestion of sac-

charose and amylaceous food. The same rule applies to lævulose in the juices of fruit. Yet portions of these matters remaining in the alimentary canal are liable to undergo lactic acid fermentation. The use of overripe fruits, of honey, and all forms of glucose, as articles of food, either enter the circulation unchanged or remain to undergo such fermentative action as bring on local disturbances in the alimentary canal. Those portions taken into the current of the blood develop an increased activity in the white blood cells, which escape into the lymph spaces in such quantities as gradually to overload the lymph channels and bring on the state known as struma. Besides, the excretion of yeast cells, taken with the pericarp of fruits into the system, shows some curious facts. Eklund and Schützenberger conclude that yeast cells, transported by the blood to the liver, transform liver sugar into glucose, which almost instantaneously begins to be eliminated by the kidneys. Introduce glucose as an article of diet, and all the younger members of the family will in a few months show enlarged lymphatic glands and other evidences of the so-called general struma. Nowhere has this been more thoroughly demonstrated than in the families of the poor in the New England States, where cooked fruits form a large part of the diet; and among the colored people of the South, where molasses and cooked fruit are likewise popular. Unfortunately for humanity, these examples of acquired mal-nutrition are not limited to the poor. Thus people, otherwise intelligent and well informed, provide this unwholesome trash for the daily use of their families. As glucose represents so much of digested food, and as experiments have been made to determine its effects upon the economy, let those effects stand as a perpetual warning against the use of such diet. The glucose being the residuary portion of artificially digested saccharose, lævulose, or starch, sustains about the same relation to nutritive diet, or to the articles from whence these products were obtained,

as common ashes sustain to bitumous coal with which we kindle our fires, and, you will pardon the simile, but I am sure no one but a lunatic would expect to be able to take the residual ashes instead of the coal and kindle from it a fire in the grate. Is it any more rational then to feed our families on the residual matters from the artificial digestion of well known articles of food?

Now, as to the treatment of phlyctenular diseases of the cornea and conjunctiva which belong to all the different varieties of strumous subjects, there can be no absolutely uniform rule laid down. It is pretty safe to say, however, that all those medicines which tend to dissolve the fibrinous matters in the tissues, as well as those which tend to hasten their elimination when dissolved, constitute the only rational sources of medication. Without attempting to do more than merely to suggest points for consideration, I may be pardoned for venturing to hope the whole subject of phlyctenular ophthalmia shall undergo full discussion.

In those sections of country where intermittent fevers prevail, certain local processes of a furunculous nature are frequently observed; generally where the ligamentous or thin plates of closely arranged connective tissue lie near the distribution of large loops of capillary vessels, as in the eye, where capillary vessels are found in the skin and mucous membrane with only thin intervening structure, in all such persons the most reliable indications may be found in the pale relaxed tongue and in the cold perspiration in the palms of the hands. Insomnia and constant temporal or occipital headache occurs in pronounced cases. All such subjects must have quinine, and most of them need calomel in aperient doses. In the chronic cases, the corrosive sublimate associated with quinine may be found best adapted to the relief of both the constitutional and local disturbances. When syphilis or tuberculosis complicates the corneal disease, no local treatment is especially indicated, and the iodides are to be relied upon.

OBSTETRICS AND GYNÆCOLOGY.

RAPID DILATATION OF THE CERVIX UTERI.

BY

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Read to the Section on Obstetrics of the Ninth International Medical Congress at Washington, September, 1887.

[Reported for PROGRESS.]

Having learned from experience and observation of the bad results obtained in efforts to dilate the cervical canal with tents, or to enlarge or straighten the canal by incisions, to cure dysmenorrhœa and sterility, I was pleased at the substitution of a method more satis-

factory; so I beg to call your attention to rapid dilatation by the bi-valve, or double-bladed metallic dilators, such as are now used by many learned operators of this country with better results and fewer complications than by other means.

Tents may be indicated in some instances, but I can hardly imagine a case where they would be preferable to the metallic dilators in operations to cure dysmenorrhœa and sterility. The prognosis is not encouraging in the use of tents, and the good results sometimes apparently obtained are usually temporary. Tents are not easily introduced, frequently cause serious complications, and dilate imperfectly and slowly, often requiring several days to complete the dilatation. Endometritis, pelvic hæmatocele, pelvic cellular or peritoneal inflammation, septicæmia, pyæmia, and tetanus, are some of the dangers accompanying or following their use. These complications are encountered when we least expect them, and no one of much experience in the use of tents has failed to have his share of trouble, as the most rigid antisepsis is not a preventive in all cases. The tupelo tent is superior to any other material; it is less likely to cause septic infection than the sponge, and dilates more rapidly, regularly, and better than the tangle. The two-bladed dilators are relatively aseptic, are easily used, complete the dilatation at one sitting, and the operation

is comparatively free of immediate or subsequent dangers; it nearly always cures the dysmenorrhœa, and often removes the cause or causes of sterility.

Briefly, the above has been the experience of the best workers in the field of gynecology. The results of incision of the cervix up to the vaginal junction, or through the osinternum, anteriorly, posteriorly, or bilaterally, has been even more unsatisfactory than those following the use of tents. The operation seldom cures the woman, has serious complications, and sometimes leaves a pathological condition of the cervix that demands trachelorrhaphy just as in laceration following labor. The graduated steel bougies possess no advantage over the double-bladed instrument; the treatment is tedious and protracted, the complications comparatively frequent, and any good results generally temporary. I have operated many times with the two-bladed instrument and have had uniformly good results with no complications. This has been the experience of Goodall, Mundé, Gill, Wylie, Gœlet and nearly every one who operates after this fashion.

I have no concern about dilating the cervix in my office practice without local or general anesthesia to the extent of from one third of an inch to one half inch, the patients leaving immediately to walk or ride to their homes. They seldom suffer much pain during the dilatation, and in a few minutes afterward are free from pain, and never have any serious complications. The dilatation should not be done if there is inflammation of the uterus or the pelvic cellular or peritoneal tissue, or if there is much tubal or ovarian trouble, nor until the vagina has been thoroughly cleansed and the instrument disinfected in pure carbolic acid. In dilatation from three quarters of an inch to one inch and a quarter, chloroform should be used, but not to the extent of profound anesthesia. The patient should be carefully prepared for the operation, which should be done about ten days after the menstrual pe-

riod; a hyperdermic dose of morphine and atropine should be given just before the administration of chloroform.

It is best to put the woman on her back and use a large bi-valve speculum, but a Sims' speculum may be used with the woman on her left side. I never begin the operation without three dilators of different sizes, but it may not be necessary to use but two of them. I hold the cervix firmly with this little tenaculum and use the smallest instrument to prepare the way for the larger ones; possibly the intermediate size may be first used, or the smallest may dilate enough to admit the largest dilator.

The uterus inclines to slip away from the dilator as it expands, but this is easily prevented by the tenaculum with the dilators I use.

In my experience this difficulty is increased with Goodell's modification of Ellenger's dilator, and is not overcome by its roughened blades. Appreciating this, and for other reasons, I devised this large instrument. The superiority claimed for Goodell's dilator is, that the blades being parallel, it dilates all parts of the canal equally. This is true in theory only, for the elasticity or yielding of the blades is greatest at the ends, while the greatest resistance is in the upper part of the cervix, so that when the external os is dilated one inch and an eighth, the internal os is dilated not more than an inch.

The reverse should be true, for the part that most needs to be acted upon is generally near the uterine body.

This dilator is more powerful, less complicated, and will not slip out of the uterus so easily while expanding; and when it dilates the external os seven eighths of an inch, the internal os will be opened about an inch. We should not dilate too rapidly, lest we lacerate the cervix. Nor should we dilate a small cervix as much as we would a large one. When the woman begins to come from under the influence of chloroform and feels pain from the presence of the instrument, it should be loosened and gently withdrawn.

The results are probably better if the cannulated intra-uterine stem is inserted just after the operation, or during the second day. The woman should be kept in bed for a week, and the vagina should be washed out with hot water daily. Sexual intercourse should be proscribed for a month; and the woman should carefully avoid every thing that tends to disturb her uterine or pelvic structures, especially should she do so about her next ensuing menstrual period.

In conclusion I would suggest that rapid dilatation may be substituted for other means in nearly every case where dilatation is indicated.

DISCUSSION.

Dr. August Martin, of Berlin, said the operation of dilatation of the uterus had undergone remarkable changes since its origination, and that the instruments devised by Dr. Wathen are an improvement, as the great object is to open the internal os. The degree of dilatation required is less in a small cervix. He was opposed to the use of sponge, laminaria, or tupelo tents, but suggested that probably the cervix had been dilated in too many cases.

Dr. S. H. Weeks, of Portland, Maine, claimed that every case of dysmenorrhœa was not due to mechanical obstruction of the cervix. The ovaries and tubes, in his experience, have been oftener at fault than the cervical canal. He was surprised at the freedom of danger in this operation reported by Professors Wathen, Goodell, and other experienced operators, and did not believe the instruments devoid of danger.

Dr. C. R. Reed, of Middleport, Ohio, thought the conflicting testimony makes it difficult for the young gynecologist to decide what to do, as some authors report that they never have a bad result in one hundred or more cases, while others meet with complications. We can not positively predict the result, and he have more persistency in operating now than formerly.

Dr. Goelet, of New York, thought that the term rapid dilatation given to the opera-

tion was a misnomer. It had come into use to distinguish it from the dilatation by sponge and laminaria tents.

Dr. Steason, of North Carolina, did not believe in the superfluous use of so much antiseptic. He performed dilatation fifty or seventy-five times a year for the past ten years. He uses no antiseptic except soap and water; keeps his patients in bed but two days, and has never had any fever. He uses a glass rod for about a week to keep the canal open.

Dr. A. Reeves Jackson, of Chicago, had but little experience in the operation, and expressed doubt as to any permanent relief from dilatation.

Dr. Headley, of Australia, explained in extenso his reasons for not using any form of tent in dilatation. He incised the canal bilaterally to the depth of the eighth of an inch and claimed good results.

Dr. Harff, of Philadelphia, dilated with cornstalk pith. He was not in favor of extensive rapid dilatation.

Dr. Lawrence, of Bristol, England, has used sounds for years, and his patients are not cured. He also used gelatin-coated sponge tents, previously saturated in carbolic acid, but the tent must not be left in too long.

Dr. Wathen, in conclusion, said, as to the question concerning his operating at his office, he did it with no concern, and no anesthetic, to the extent of half an inch. He was pleased to recognize Dr. Emmet as good authority on many subjects in gynecology, but was surprised at his being quoted an authority on rapid dilatation of the cervix uteri, since he seldom, probably never, performs the operation, and positively refuses to recognize an obstructive form of dysmenorrhœa. To be logical, he can not perform the operation, and can have only a theoretical knowledge of its value, hence the relative insignificance of his opinion compared with the opinions of gynecologists of large experience in the operation. Rapid dilatation is also a valuable means of

removing obstructions due to flexure of the neck, if, after the first dilatation, we reverse the concavity of the blades and expand the instrument a second time, following the operation with an intra-uterine stem, to be worn until the local effects of the dilatation have mainly subsided. Dilatation may also be indicated in some cases where there is no permanent congenital or acquired pathological narrowing of the canal, the trouble being due to spasmodic contraction caused by a so-called fissure at the utero-cervical junction, similar to fissure of the rectum; the operation curing the trouble just as divulsion of the anus cures canal fissures.

We can arrive at a reliable conclusion as to the relative merits and dangers in enlarging the canal by tents, incisions, or rapid dilatation, only by observing the experience of those operators who have carefully tested all these means, and the opinion of such men is universally in favor of the latter method. Of course, no intelligent person would suggest dilation for the removal of any trouble not directly in the uterus; so having carefully given the indications and contra-indications for the operation, it is not necessary to repeat them. I regret, however, that the discussion should have assumed a latitude not contemplated in my paper, including, as it has, the operation for the removal of conditions that could not be expected by any logical process of reasoning to be benefited by the dilatation.

MUST THE OVARIES GO?

BY

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ST. LOUIS, MO.

Read to the Mississippi Valley Medical Association, at
Crab Orchard Springs,
Ky., July 15, 1897.

Such a question, isolated and alone, as must the ovaries go, possesses no meaning; but when considered in relation to the literature of the subject, it becomes a query possessed of the great-

est importance and interest to one, the correct answer to which requires the most careful and painstaking and dispassionate consideration of all the facts bearing upon the

subject. This is a question the decision of which calls for facts and not for the mere *ipse dixit* of this man or that man who happens to be prominent as a gynecologist. Unless his opinion be based upon actual observations of pathological states, in connection with the results of operative procedures in these cases, they are of no consequence whatever in the solution of this problem.

"Must the Ovaries Go?" means, Is Battey's operation a wise one? In other words, do the good results attending the removal of the ovaries in certain cases justify the dangers and risks incident thereto? I answer without hesitation in the affirmative. I am perfectly willing to concede that Battey's operation has been abused; but this constitutes no argument against the validity of the operation. I claim that it rests upon a sound pathological basis and has an extensive field of application. When Battey first essayed the removal of the ovaries, the presumption is that he was guided by a process of intuitive reasoning in reaching his conclusion of the advisability and justification of so serious a procedure; for, at that time, no appreciable pathological data existed to justify the inference that diseased ovaries played any considerable part in disturbing the peaceful relations of the economy, and this was especially true as regards those states of the ovary devoid of gross evidences of disease. He was perhaps led to this conclusion from physiological inference rather than from any pathological deductions.

Battey, in popularizing this operation, was accomplishing far more for the elucidation of the hitherto insoluble problems of pelvic pathology than he perhaps had the most remote idea of. Having obtained for his operation a place in the list of legitimate and warrantable surgical procedures, the field of pathological observation of the pelvic organs was thereby at once opened to direct observation, study, and deduction, and we became possessed of actual experience in the interpretation of those obscure phenom-

ena of disease which, in deference to the mere opinion of certain eminent men, the mass of the profession have accorded an interpretation quite at variance with what actual observation teaches. The name of Thomas Addis Emmet will for all time be held in respectful reverence because of the real advances that he has made in gynecology; but that he assigns to pelvic cellulitis an undue importance in interpreting the diseased processes of the pelvis can no longer be denied in the light of the accumulated evidence to the contrary arising from actual observations incident to Battey's and Tait's operations. Diseased tubes, pyo-salpinx, hydro-salpinx, catarrhal inflammation of the tubes, with peritoneal adhesions, have been found to obtain in such an overwhelmingly large number of instances in which cellulitis was supposed to be the active factor of disease, and yet no evidences of cellulitis found, that we are absolutely forced to abandon the theory so long held as to the frequency and importance of pelvic cellulitis as a primary and essential condition of pelvic disease. In doing this we should not go to the extreme of denying to cellulitis a measure of importance in pelvic troubles, but the fact is now patent that, in comparison with local peritonitis, the measure of consideration is very small indeed. Given the fact that diseased tubes and local peritonitis are the associate conditions usually found when the ovaries and tubes have been removed, then what relation do these diseased processes bear to each other? Is it not more reasonable to suppose that the peritonitis is the result of tube-leakage rather than, as Dr. Emmet conjectures, that inflammation of the tubes is due to extension of the peritonitis from the pelvis, excepting that class of cases in which gonorrhea has had part in the origin of the inflammation? It seems to me far more conversant with reason to recognize a relation as subsisting between endometritis and diseased tubes, and that in the great majority of cases of diseased tubes the diseased process is sim-

ply an extension from the lining membrane of the uterus. This is the position maintained by W. Gill Wylie, and in this position he is strongly sustained by Dr. Henry Coe, Pathologist to the Woman's Hospital of the State of New York, in the results of a number of post-mortem examinations in all of which some form of pelvic inflammation had existed—at least so I have been informed. I have not had the pleasure of reading his paper.

Dr. Emmet acknowledges that gonorrhea is a potent agent in the production of inflamed tubes. Then, in order for the gonorrheal poison to reach the tubes the lining membrane of the body of the uterus must first be involved, and the assumption that the lining membrane of the uterine cavity enjoys comparative immunity from inflammatory processes is, in the absence of proof, based upon actual observation, to say the least, novel; and, with all deference to Dr. Emmet, it seems to me that his position in this respect is ultra and untenable.

The claim that the tubes are implicated in the vast majority of those cases which were erroneously supposed to be chronic pelvic cellulitis, is indisputably established; and is it more in keeping with the teaching of common sense to suppose that the attacks of local peritonitis are due to escape or leakage from the tubes of inflammatory products than that the inflammation of the peritoneum should extend over the bridge of a single fimbria into the tubal cavity? In that class of cases of peritonitis associated with cellulitis, following quickly upon labor, in which there has occurred a laceration of the cervix, it seems very probable that Dr. Emmet is right in attributing to the lymphatics situated in the connective tissue of the injured part the carrying agency of the septic poison that leads to the combined peritoneal and cellular inflammation. But I am strongly of the opinion that of all the cases of pelvic inflammation this method of occurrence constitutes a very inconsiderable one, and that the vast majority of cases, commonly diag-

nosed as chronic pelvic cellulitis, are in reality cases of chronic salpingitis and periovaritis, and that such cases have their origin in the main in septic poisoning, arising in the endometrium, incident especially to abortions, in consequence of the imperfect separation of the deciduous products that so frequently follow abortions, and also because of the obstructed drainage, the cervix being more irritable and liable to contract, as pointed out by Wylie, thus favoring the introduction into the tubes of septic matter from the uterine cavity. Salpingitis becoming established, whether through septic poisoning incident to the laying-in state, transmitted from the endometrium by gonorrhea, or otherwise, we are treated to recurring attacks of local peritonitis incident to the escape of septic material from the tubes into the peritoneal cavity, and nature in her protective efforts against general peritonitis entails local conditions which involve so much of pain and suffering as to render absolutely imperative that operative relief which can be safely extended in so large a percentage of cases as to cause the general withholding of such measures to be regarded as justly unpardonable.

When the tube and ovary become heavy from inflammatory processes, the natural tendency is to fall downward and backward upon the posterior surface of the broad ligament, at which point adhesions occur, which contract, inflame again, and further contract, and so on. And thus the process of rolling in of the ovary is continued until in some cases it has a series of envelopes. And even though every particle of inflammation in the tubes should be relieved, yet so oppressed would be the functional acts of the ovary, in consequence of its unyielding investments, that any thing like comfort and ease is perfectly incompatible with such a state of things.

And, again, the tubes becoming once diseased and thus displaced, the lumen of the tube is almost inevitably obstructed, and free drainage becomes an impossibility. As

a consequence of this state of things we have repeated attacks of local peritonitis, resulting from the escape of the tubal contents into the peritoneal cavity. (And here I will say that recurring attacks of peritonitis constitute one of the leading indications of chronic salpingitis.) Nor are the effects of those recurring attacks of local peritonitis confined to the ovaries and tubes, for, as Wylie says, "as the contraction (incident to the attacks of peritonitis) goes on, the tissues harden, and the tubes may form strong cords which, being adherent to the floor of the pelvis, fix the uterus in its retroflexed and retroverted position. Thus we have cases of retroversion with adhesions, and it is the rolled up ligaments and tubes which fix the uterus backward; or it is the imbedded ovary and diseased tubes in the hardened tissues of the broad ligament which makes it next to impossible to insert a pessary and hold the uterus up without causing pain and running the risk of bursting or tearing a tube distended with septic or irritating fluid. By great patience and time in many cases we can stretch the ligaments, and by force get the fundus uteri into that ideal normal position; but to keep it there is the trouble. The rolled-up broad ligaments will not unroll, and, when put on the stretch by the uterus being held up by force, they soon begin to ache, inflame, and may cause local peritonitis.

Now, suppose only one tube is affected; the retroversion will be less, and if the other side is not affected the uterus may be even a little anteverted, unless the inflamed tube drops to the floor of the pelvis. If the ovary and the tube of the affected side are prolapsed and inflamed, as contraction takes place the broad ligament is shortened, especially on its lower side; and, unless the tubes and ovary are very much distended so as to displace the uterus bodily, the cervix is drawn to the affected side, the fundus being tipped toward the healthy, or less affected side, which is usually the right side; and the swollen ovary and tube may be

forced backward somewhat behind the uterus. When one side only is affected, it is usually the left; the circulation on this side from the formation of the veins, and the proximity of the often distended intestine to the left broad ligament, seem to make it more susceptible to congestion, prolapses, and disease than the right side. When both tubes are involved the left is probably the first to become affected. This, together with the natural position of the uterus being that with the fundus inclining slightly to the right of the center, accounts for the fact that when both tubes are affected and the uterus is not retroverted, the cervix is drawn to the left and the fundus to the right, the left ovary and tube being prolapsed, and the right usually much less prolapsed. In nulliparous women, especially in those cases where the uterus is anteverted or anteflexed, and where the disease is gradual in its progress, this condition of right lateral flexion with the fundus forward is most likely to be found, whereas after labor and abortions salpingitis is more frequently associated with retroversion."

Having thus from actual observation been lead to clearer perceptions of the pathology of pelvic affections, we can appreciate the absolute necessity in a large number of cases for operative relief. Wise practice springs from clear perceptions of pathology.

As this paper is in no measure intended to be a complete or systematic treatise upon this subject, I will scarcely do more than allude to the supreme importance of preventive measures, in view of the almost inevitable tendency to chronic inflammation of the tubes, when once the seat of trouble. The dangers in this direction from gonorrhea can not be too strongly insisted upon. Young men who have become the victims of gonorrheal infection should invariably be informed of the serious results that are liable to follow to a female from infection with the disease, and should always be disabused of the impression that so commonly obtains, that they can rid themselves of the disease

by transmitting it to another. Again, recognizing the septic agency incident to abortions and the lying-in state, we should not fail to accomplish the most thorough removal of all placental or deciduous remains, washing out the uterus with such antiseptic solutions as may be required to accomplish perfect asepsis. Nor should we be unmindful of those conditions of endometritis not dependent upon either of these conditions; and if we will hold on to our applicators and sounds a little longer, and, having first dilated the cervical canal with a suitable dilator, make our applications to the endometrium, through a cervical protector, we may become persuaded that the duration of our patients' cases are lessened instead of lengthened by such treatment. I would not give a picayune for any application that is made to the uterine cavity without the use of the cervical protector.

In the light of our present experience in certain of these cases there can no longer exist any question as to the wisdom of removal of the tubes and ovaries, as compared with the withholding of all operative measures. But to my mind, the question to be considered in dealing with such cases is the one involving the propriety and advisability of laparotomy of normal relations looking to the release of adhesions with the restorative, a procedure instituted with the fixed principle of removing no more of the parts or organs than may be necessitated by rigid pathological requirements; to what extent and with what results efforts at liberation and reposition of pelvic organs may be cured by operative measures is as yet not known, but we have at least a beginning in this direction, and I do not know that I can do better than give you in Dr. Polk's own words what he has to say on this subject, in a paper read before the Obstetrical Society of New York, April 19, 1887, entitled "Laparotomy for Adherent, Retroflexed or Retroverted Uterus." Treating of the subject he says:

"Under the old pathological conception,

the uterus naturally attracted most attention, and much of the misery experienced by these sufferers was referred to it, and now we know that the imprisoned tubes and ovaries are as important, even more important factors in the sum of morbid results growing out of the condition. So that to-day, when one approaches such cases he meets with uterine, tubal, and ovarian disease—all dependent upon the same condition, the tube having been the channel through which they have been so seriously crippled."

To formulate it, we have retro-displacement, salpingitis, and peritonitis; all the organs imprisoned by peritoneal bands.

The symptoms present in these cases are sufficiently familiar to all present, but I desire to point out that they are of complex origin, the uterine enlargement and tenderness, its interference with adjacent organs, and the endometritis being clearly due to the faulty position of the uterus, but the menstrual and inter-menstrual pelvic pains can not be traced wholly to this organ. They are due to faulty conditions in the tubes and ovaries, no doubt, more than to faulty conditions in the uterus. We may formulate it thus: The amount of pain and discomfort is equal to the amount of interference with the menstrual congestion of all these organs. Granting this, we next approach the question of operative treatment.

Menstrual congestion lying behind the suffering, the first thought was, let us remove the ovaries, and if need be the tubes, and stop this periodical congestion. Again it is said, that those organs are diseased, are useless; for this reason, then, as well as to stop periodical congestion, we will remove them. No one can question the soundness of these arguments, except perhaps the last, but do they not carry us too far? Can we not relieve and even cure our patients short of either of these radical procedures? I think we can. Let us not fix our minds too closely upon ovulation in this matter. Let us accept it as something to be preserved,

and turn our attention to that which renders it a distress. I think I am right when I say that it is a distress in these cases, because the uterus, tubes and ovaries are so hampered by adhesions that they can not properly respond to the periodical congestion set in motion by ovulation. All these organs have an arrangement of vessels which closely allies them to erectile tissue. Now bind them down, distort them, prevent them from expanding and contracting in response to the requirements of ovulation, and you have enough not only to perpetuate the inflammatory condition responsible for their state, but even to induce it anew.

I would suggest, then, that these cases be treated by laparotomy, by freeing the uterus, tubes, and ovaries from the adhesions which distort and bind them down, and lastly by so treating the uterus as to keep it forward, and lift its appendages away from the pelvic floor. By so doing we restore circulation through these organs, as nearly as may be in accordance with physiological law, and thus best stop the menstrual and intermenstrual pains with their associate symptoms. This procedure, so far as the tubes are concerned, pre-supposes the absence of fluids distending them—an absence I believe to exist in the majority of cases, especially if they be of long standing, for time has a great influence in bringing about absorption of fluids here as elsewhere in the body.

Should the tubes be found distended with morbid fluids, we have an addition to the condition I particularly dwell upon—an addition which at present can perhaps be best met by amputation. In all cases the tubes should be carefully inspected, so as to avoid the possibility of freeing and leaving a tube whose end may leak septic matter into the peritoneal cavity. If there be catarrhal inflammation of the tubes, even though they be slightly distended, I am disposed to believe (though I will not press this point now), from the result in one case, with careful cleansing of these cavities, together

with the drainage and washings by water of the pelvic cavity for a day or two after the operation, will enable us to save them.

As to the ovaries, mere periovaritis, which is present in all these cases, is not an indication for removal. In the absence of decided enlargement of these bodies over and above the largest dimensions recognized as normal for any case, I am disposed to consider that, in spite of the periovaritis, they will cause no trouble, but continue their function without detriment to the woman, and even with comfort, in that their retention assures to her the continuance of functions which though they may not be in all respects complete, are at least a sign to her and others that she is not singular amongst her sex.

In connection with this subject and in support of these ideas Dr. Polk has cited three cases, and they are so interesting and instructive that I hope you will pardon me for giving them in full, as they constitute our entire clinical experience upon this subject.

Mrs. A., aged twenty-six. Seven years ago had a severe attack of pelvic inflammation; she was very ill for three months, and then made a gradual recovery. The prominent local condition during the attack was a mass in the left iliac region. This slowly disappeared, but ever since the illness she has been conscious of uneasiness in that region. From the date of the inflammatory attack to the present she has suffered severe dysmenorrhea, this pain lasting as a rule for three days, and of sufficient intensity to compel her to keep in a recumbent posture during its continuance. Aside from this menstrual pain, the soreness in the left iliac region and an occasional attack of rheumatism, she has been in good health.

Two months ago she was married, since which she has been a constant sufferer from pelvic pain, with much increase in the dysmenorrhea. Upon examination I found the uterus retroflexed and firmly bound in Douglas' cul de sac; the body enlarged and

very sensitive. Upon the left side, in the broad ligament region, there was a fixed sensitive mass, about as large as a walnut; upon the right, in the corresponding region, a similar but smaller mass was likewise detected.

Diagnosis:—Retroflexed, adherent uterus, with adherent tubes and ovaries; the whole the result of a prior salpingitis and peritonitis. I advised laparotomy; and in March it was done. The adhesions binding the uterus, tubes, and ovaries were easily broken up and those organs liberated. The tube-walls were somewhat thickened, but there was no distension of the cavities. The right ovary was small, the left somewhat enlarged; this one was much more firmly and extensively adherent than the right. A drainage tube was placed in position, as usual, behind the uterus, and the wound was closed. The patient made a good recovery, and has had one menstruation free of pain.

The uterus to-day is in normal position, with the exception that it is somewhat lower in the pelvis than I would prefer. It is now movable, and it, together with the appendages, is as free from pain on pressure as could be possible so soon after operation.

B. C., aged thirty-one. Married, and has had four children. At the birth of the last, five years ago, had an attack of pelvic inflammation. This left her with dysmenorrhea, backache, and constipation; sexual intercourse also became painful. These symptoms had continued to date.

Wearying of the various efforts at cure to which she had been subjected, she sought relief in an operation. Inquiry showed that, short of the operation, her treatment had been thoroughly and carefully conducted. She stipulated that her ovaries should not be removed.

Examination showed the uterus in an extreme state of retroflexion, enlarged, very tender, and firmly fixed in the cul de sac of Douglas. On either side of the uterus were sensitive masses, evidently the tubes and ovaries.

The abdomen was opened, and a hood of false membrane was found extending from the anterior face of uterus over the fundus to the rectum and the posterior lower portion of the pelvis, thus firmly imprisoning the uterus. This was torn away and the organ was lifted into its normal position. The tubes and ovaries upon both sides were adherent, and they corresponded to the masses which had been found by vaginal examination. They were next torn free. The tubes were thickened, but these cavities appeared not to be enlarged.

The pelvis was now washed with warm water. A Hegar drainage tube was inserted and the wound was closed. A Hodge pessary was next placed in the vagina. The patient could not tolerate the pessary, so it was removed the following day. When it was removed, the drainage tube was found to have slipped from its position, and the uterus was more retroverted, but not retroflexed, the end of the tube resting upon the fundus.

It was concluded that the operation was a failure; but when, at the end of a week (from the operation), a sound was introduced, and it was proven that the uterus was not adherent, but could be lifted as far forward as it had been at the section, it was determined to hold it forward by shortening the round ligaments.

This was done on the fourteenth day from the section, the uterus easily coming into place.

At the end of two months the patient was discharged. The uterus was in normal position; she had menstruated twice without pain; the constipation and backache were each a thing of the past.

M. F., aged thirty-three, has had seven children. Sixteen months ago she had a miscarriage which was followed by symptoms of pelvic inflammation. From that time up to date she has had excessive and painful menstruation, excessive backache, and constipation. Examination showed an extreme degree of retroflexion; the fundus

enlarged and very sensitive; the entire organ firmly fixed in the cul de sac of Douglas; ill defined sensitive spots in both broad ligament regions. The operation was done while the patient was menstruating. The uterus was bound down by adhesions—these were easily separated; the tubes and ovaries were then freed from those which imprisoned them. Upon bringing the tubes to the surface they were found swollen, the right one occluded, and both containing menstrual blood.

In the presence of the house staff, Dr. Fordyce Baker and Dr. Harvie, of Danville, Va., the occlusion of the right tube was opened up, both tubes were washed out with warm water and they, with the ovaries, which were sound, were replaced in the pelvic cavity. A Hegar tube was next introduced, and the abdominal wound was closed. The patient's condition being good, the round ligaments were next shortened. The combined operation consumed about fifty minutes.

Patient made an uninterrupted recovery, and at the end of eight weeks was discharged cured. Uterus in normal position and no sensitive spots above it.

The three patients thus reported each made an easy recovery.

The lessons learned from the last of series are more numerous, and by far the most interesting, especially if it is read in conjunction with the suggestions as to the treatment of this class of cases.

There is no reason to suppose that efforts directed to the correction of the abnormal conditions treated of will be attended with any greater risk to the patient than would be the case were the removal of the parts accomplished, even if as great; and I am disposed to think that we have here presented us a most interesting field of labor—one our efforts in which, compared with those involving the removal of the ovaries and tubes, we may quite naturally expect to prove prolific of more pregnant results, at least.

LABOR COM-
PLICATED WITH
ANESTHESIA.

BY
W. HOWARD CORY,
M. R. C. S. ENG.

BRISTOL.

[*British Medical Journal.*]

Mrs. S., aged forty, a small, delicate looking woman, who had lately recovered from a severe attack of pneumonia, requested me to attend her in her approaching confinement. The patient

was extremely nervous and low spirited, and frequently stated that she did not believe she should get over her accouchement. On February 2d, at 7 P. M., I was hurriedly summoned to go to her, the messenger stating "that she had been in great pain for some hours, and something was coming away from her."

On my arrival I found the following state of affairs: The patient was reclining on a chair, supported by two women, with a portion of the umbilical cord projecting from the vagina, her face was covered with a cold, clammy sweat, she had cold extremities and a small, quick pulse, in fact every thing indicating mortal terror with approaching collapse. My treatment was as follows: Having first placed my patient on the bed (to which she strongly objected) I endeavored to pacify her mind, but without success, and ordered some hot coffee. I then made a vaginal examination, and found both feet presenting, but as there was complete absence of pulsation in the cord, which had also become cold and flaccid, and bearing in mind the state of the patient, I did not like to hurry matters until I saw some improvement. I also noticed that every time I attempted to make traction by seizing the foot of the child her face would assume a mahogany color, her breath came in pants and gasps, her pulse became rapid and at times almost imperceptible, and her face and extremities covered with a cold, clammy sweat. After much trouble and delay, however, I managed by manipulation in progressive stages to extract the body and extremities of the child, but before attempting to deliver the head I gave my patient a

drachm of liq. ext. ergotæ, and waited a quarter of an hour, as I was afraid of *post-partum* hemorrhage. The woman all this time was most restless, turning first on one side and then on the other, and frequently attempting to get out of bed, so that my movements were much impeded. After some trouble, however, I managed to extract the head, and placing my left hand firmly on the abdomen, seized the uterus, which I did not release for half an hour; the placenta also came away without any trouble. Notwithstanding the fact that the woman was perfectly conscious of what was going on, she afterwards informed me that she had not the slightest sensation of any pain during the time I was attending her, neither did she detect the prick of my hypodermic needle in her arm on two occasions, when I found it necessary to inject ether.

The cause of the patient's extreme terror was no doubt owing to the appearance of a portion of the cord, which I found hanging down between her legs, and which appears to have caused for the time being complete paralysis of the sensory nerves, but which did not affect the motor nerves, as she was able to move about, and greatly interfere with my action. In the treatment of cases of impending collapse or syncope, I would venture to suggest that there is nothing better than the hypodermic injection of ether; it saves time, and the results on the pulse are almost instantaneous. I would also suggest strong coffee instead of brandy; the latter produces more excitement and frequently severe headache, which can not be beneficial to the patient.

Should *post-partum* hemorrhage be expected, I am of opinion that the uterus should be firmly held by the hand previously dipped in cold water, dried and placed on the abdomen just before the birth of the child, the tying and division of the cord being performed by the nurse; even if the uterus should be found firmly contracted, the hand should not be removed from the

abdomen if the pulse is rapid. It is a most common thing, both with senior and junior practitioners, to disregard this in the excitement and flurry which sometimes follows the birth of the child; this, I venture to submit, has frequently been the cause of flooding when otherwise it might have been avoided.

I should be glad to know from any brother practitioners who may have had any experience in such a case, whether (considering the state of the patient) I was justified in relieving the woman by a gradual process, or otherwise. I may add that the patient made a rapid recovery without any unfavorable symptoms.

INFANT FEEDING AND MEDICATION.	Dr. Isaac N. Love, of St. Louis, has given much attention to the
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subject of feeding infants. He thinks great wrong is some times done in forcing a sort of popular diet upon purely theoretical grounds. A child suffering from acid dyspepsia and diarrhea, may be sacrificed in the persistent cramming of the stomach with milk and amylaceous substances. A tepid bath followed by a copious inunction, permitting water alone to be swallowed, has occasionally averted the great danger of trying to force the crippled digestive organs to perform the work of preparing food, when cutaneous absorption would promptly meet every natural demand.

In desperate cases Dr. Love feeds by inunction, by rectum, and even by vaginal injection. He thinks medicines should more frequently be introduced through the skin, where the digestive organs are impaired. There is a fruitful field for study in these suggestions of our able and industrious confrere.

There is no chance for quick absorption of medicines, even in a fluid state, where active gastro-intestinal fermentation exists, and the only rational plan in such cases is, to limit the medication to such substances as are designed to act chemically or locally.

PATHOLOGY AND HYGIENE.

THE MALADIES
OF OLD PEOPLE.

BY PROF. HUMPHRY,
M. D., F. R. S.,
*Professor of Surgery in the
University of Cambridge.*
[*British Medical Journal.*]

The following remarks are based upon the analysis derived from the accounts of 824 persons, which were given, with few exceptions, by medical men, and which

were in reply to the inquiries of, and upon the forms issued by, the Collective Investigation Committee of this Association. Of these 824 persons, there were 340 males and 282 females between eighty and ninety, and 92 males and 110 females between ninety and one hundred.

I may first observe that, with regard to diseases and failures of particular organs, the immunities were in favor of the women, amounting to 55 per cent as compared with 35 per cent in the case of the men. The affections of the urinary organs especially preponderate, as we might expect, in the men. They are, indeed, more than twice as frequent in the men as in the women, amounting to 42 per cent, whereas in the women they were only 20 per cent. In the women, brain-affections are more frequent than in the men, being 16 per cent to 7 per cent. But the failures in the heart and in the lungs are about equal in the two sexes. It is worthy of note that 85 per cent of the whole number are reported to be free from any evidence of rheumatic affections of the hands.

Of the various maladies, bronchitis is the dominating one, and, superadded to debility, it is oftener than any other assigned as the cause of death. It is, indeed, including the common winter cough, a very frequent malady in this climate at all times of life. In the aged it is liable to become persistent; and a slight increase coming upon the enfeebled circulation and general weakness of the old person often produces a fatal result. The demands on the activity of the respiratory functions are, it is true, diminishing in

the aged in proportion to the diminished activity of the nutritive and other processes; but the respiratory capacity, which depends much upon the elasticity of the thoracic walls and of the pulmonary tissue, is liable to diminish in still greater ratio. Hence the expiratory movements, which are in great measure the resultants of elasticity, are performed incompletely and with effort, and the expulsion of mucous from the air-passages is effected with difficulty. Thus a continual source of irritation is provided, which, on slight provocation, extends into the smaller bronchial tubes, and is reluctant to quit its hold there. In a few cases the affection was habitual and had been so for years. In some there had been recurrence of attacks of considerable severity, with complete recovery, at a very advanced time of life.

It will probably accord with the experience of those present that some combination of sedative with stimulant medicines affords more relief in these cases than any other treatment.

With regard to the heart we do not get much evidence of disease. Some irregularity or intermission of pulse was noted in about a fifth of the cases observed. In a few there were stethoscopic indications of valvular disease without any other symptoms. Whether the œdema of the legs observed in certain cases, and which we are familiar with as an occasional temporary affection in old people, is attributable to an imperfection in the heart, or to some other cause, I do not know. A knotty condition of the arteries, indicative probably of calcareous degeneration, is reported in 12 per cent.

The brain affections, and the recoveries from them in old people, are among the most remarkable of their maladies. We are all familiar with the fact that passing attacks of unconsciousness, whether they depend upon temporary congestion or mere suspension of cerebral activity, or other cause, are by no means uncommon, and leave often

no permanent diminution of mental power. The impairment or loss of motor power in some part, as a limb, is, of course, a serious addition, forasmuch as it commonly indicates a lesion or decided failure in some locality of the brain, probably of the same nature as we find in similar attacks in less advanced age; and a paralytic seizure not infrequently ends the long but not necessarily strange or eventful history. But we are surprised to find how even these attacks in the aged are not infrequently more or less recovered from. Thus there are twenty-five cases in which brain-attacks associated with paralysis, in most instances hemiplegia, and in some with convulsions and unconsciousness, were in greater or less degree recovered from. In some the recovery was complete. One man had three attacks of paralysis at eighth two, eighty-five and eighty-six; and one woman, in addition to several attacks of unconsciousness, had left hemiplegia and convulsions at seventy-eight, paralysis of the left hand at eighty-two, and severe apoplexy at eighty-nine, after which she was able to get about again, though with weakened mind and a liability to epilepsy.

While considering this point we do not forget that in the aged person the brain is gradually and progressively shrinking, and the interspace between it and the skull caused by this shrinkage is being filled by fluid effusion in the subarachnoid or pia mater tissue; and there may be temporary irregularities and imperfections in this compensating adjustment of pressure of fluid on the surface and of the blood circulating in the interior, which would to some extent account for these cerebral attacks, and also for the recoveries from them. The senile alterations in the arterial coats must also be an important item; but our knowledge of the physiology of the cerebral circulation is at present scarcely sufficient to enable us to make clear deductions respecting its pathology.

In only 11 out of the 340 returns of men

between eighty and ninety, and in only one of the ninety-two returns between ninety and one hundred, is prostatic disease said to have existed; in one of these it had existed several years, and in others two, three, and four years respectively. In one the affection is said to have given less trouble than formerly. The condition of retention relieved by frequent use of the catheter may be extended with care over many years; but the enlargement of the prostate, with its associated bladder-symptoms, is, I fear, a malady from which recovery, even in old age, is scarcely to be expected. It is something to find that our reports confirm the view that it is a malady from which age gives, after seventy, a gradually-increasing exemption.

Fifty-two were troubled with rheumatism in some of its many forms, which include pains in the limbs, aching in the bones, etc., for which, I suppose, a remedy is not very easily to be found. Indeed, it is difficult to define precisely, or clearly account for, the various pains, rheumatic and other, which old people often complain of, and which disturb their comfort without materially affecting their health. The women suffer from these even more than the men, probably in consequence of the nervous system in them being more on the alert; five of the men and six of the women had gout, all these being between eighty and ninety.

Two cases of senile gangrene were noted. They were in men above ninety.

The severe forms of malignant disease are rare. One man, above eighty, had rapidly advancing sarcoma of the shoulder; five women, between eighty and ninety, had cancer of the breast; five men and one woman had epithelioma; and one man and one woman had rodent ulcer. None of these maladies are mentioned in the men or women above ninety. Still, although the very aged appear to be less liable to some of the more severe diseases, such as cancers and diseases of the urinary organs, they are,

on the whole, rather more liable to the ordinary maladies, the proportion of those above ninety who were altogether exempt from malady being 34 per cent, while the proportion of those between eighty and ninety was 43 per cent.

With regard to the eyes, 8 per cent are stated to suffer from cataract, 80 per cent are said to have good sight, although 83 per cent use glasses. Some have used glasses for many years, which is confirmatory of what I said in the account of the centenarians, that "the occurrence of presbyopia does not seem to be associated with, or to be a prelude to, inconvenience or impairment of sight beyond that which may be corrected by glasses."

The more frequent failure of the organ of hearing, which is noted in more than one half (56 per cent) of the returns, is probably due in great measure to the liability to impairment of the delicate mechanism of the middle ear—the tympanum with its membrana tympani, its ossicles with their joints, its muscles, its Eustachian tube, and its lining membrane—in consequence of colds, shocks, and a variety of causes. But in comparing the organ of hearing with that of sight, in this respect, we must not forget that the lessening of elasticity and muscular activity—which we must assume to induce defects in hearing in old persons corresponding with the visual defects classed under the term presbyopia—does not, like the latter, admit of alleviation by an early applied physical apparatus. At least, nothing corresponding to the portable and convenient lenses for presbyopia has yet been adapted to meet the auditory defects which may be attributed to a presbyotic condition.

In 4 per cent only is the digestion said to have been bad. In 71 per cent it is reported as good, and in the remainder moderate. Very few were troubled with constipation. In 62 per cent the appetite is reported to be good; and by far the greater number are stated to be good sleepers.

I am continually seeing and hearing of

instances confirmatory of the inference as to the reparative powers of the aged after fractures, wounds, and ulcers, which were based upon the returns furnished in reply to Collective Investigation inquiries, and which I have already published (*Journal* of July 12, 1884). These inferences are so contrary to preconceived notions, indeed, to probabilities, that it takes some time and effort and frequent repetition to obtain for them a fair measure of acceptance; but I think the reparative powers of age are becoming more accredited, and that we shall ere long cease to have age adduced as a reason against the hopeful, and therefore careful, treatment of fractures, wounds, and sores in the octogenarian, the nonagenarian, and even in the centenarian.

What is even more remarkable than the healing powers of the aged after local lesions are the reparative powers evinced by them after illness, as shown by numerous examples of those between eighty and one hundred, and also by some of the centenarians, which have been already published (*Journal* of December 11, 1886). Indeed, the recoveries from severe attacks of bronchitis, pneumonia, apoplexy, and paralysis indicate the reparative powers after illness as well as after accident to be among the most interesting of the senile features. It is certainly strange that, when the other nutritive forces are failing—wearing out, as it were—those which are concerned in the work of repair, which may be regarded as, next to development, the highest effort of nutrition, should hold their ground so well. I have on former occasions (*Journal* July 12, 1884, and May 9, 1885) instanced some other conditions in which the same contrast is observed, notably that of the healing of the stump after separation of a part following gangræna senilis, where the structures next to those which were unable to maintain their vitality at all often evince so much granulating and cicatrizing energy. As an illustration of this, I have at the present time, in Addenbrooke's Hospital, a man, aged sev-

enty-seven, with calcified arteries, in whom the right great toe and the left second toe have mortified and separated, and the parts left have healed well and soundly, the head of the metatarsal bone of the hallux being covered by a large cicatrix, which must have formed with difficulty at any period of life; and cicatrization is now going on rapidly on the surface left by sloughing and ulceration on the inner side of the left great toe. Attention has quite recently been drawn by Dr. Harley (see *Lancet* of June 18) to certain facts which seem to have a bearing upon this point.

He observes that high breeding in most animals conduces to a marked diminution in the bodily recuperative capacity; also that the higher bodily recuperative capacity shown to be possessed by all men living in a rude state, whether in the form of savages or in the gipsy or tramp wanderer among ourselves, arises from the fact that the refining influences of civilization materially diminish the animal recuperative capacity. We are familiar also with the great reparative powers exhibited in some of the lower animal forms as compared with those in the higher animals. It would seem that the greater sensitiveness—that is, irritability or susceptibility of the nervous system and of the tissues generally—which is associated with higher organization, where we may suppose the balances of nutrition to be most delicately swung, are, in a measure, unfavorable to reparative work. We can quite conceive that the calm, quiet processes upon which it depends are less likely to proceed in an orderly and uninterrupted manner under conditions of high excitability, where stimulus easily engenders disorder, than under lower vitality and less susceptible circumstances. Herein, possibly—namely, in the lower and slower excitability of their tissues—may be found an explanation of those recuperative powers of the aged to which I have referred, and of which it is practically important that we should take due account.

PREVENTION OR RESTRICTION OF CHOLERA.

BY

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[*British Medical Journal.*]

The epidemic of cholera in Southern Europe during 1884-87, has once again brought into prominence the question of the best method for preventing the extension of that disease; and since the United Kingdom of Great Britain and Ireland has now finally determined on the adoption of a system of prevention which is in distinct antagonism to that which finds favor in so many parts of the continent of Europe, and especially amongst some of the Mediterranean powers, I have thought that it might be of interest to those who are gathered here to-day, and who in one way or another concerned in the promotion of the public health within this realm, if we took note of the attitude which we as a nation have taken up in this respect, and endeavored to apprehend its value and significance in the light of the events of the past three years.

I need hardly to remind you that the subject has been regarded as one of such international importance that the civilized nations of the world have on several occasions sat together in council with a view to the adoption of a universal code of regulations. The three most prominent of these gatherings have been the International Sanitary Conferences of Constantinople in 1866, of Vienna in 1874, and of Rome in 1885. The latter I had the honor of attending as one of the delegates of the British Government. But no international understanding has been arrived at as the outcome of either of these assemblies; a negative result, which I believe to have been in the main due to the fact that the end aimed at has been sought in two diametrically opposed methods.

The one method, which is essentially re-

strictive in character, has always been advocated by several of the governments of southern Europe, France always taking a prominent lead. The other, which is essentially preventive in character, has always been aimed at, and more or less insisted on, by this country. The one is the quarantine system, the other is our system of medical inspection and isolation. The one says to cholera: "Hither thou shalt come, but no further;" the other based on experience as to what is practicable in controlling the march of such a disease as cholera amongst civilized communities, has above all things aimed at the removal from the midst of the people of those conditions which are essential to the spread of the infection in question.

Measures of land quarantine, by which it is sought to stay the spread of disease by means of so-called sanitary cordons and threats of rifle bullets, although still resorted to in moments of panic, have been so often condemned as useless by sanitary authorities in nearly every part of the civilized world that I shall not discuss them here. It is, in all probability, from sea-borne cholera that Europe now runs the greatest risk, and I propose briefly to discuss the application of the two methods I have named to the control of that disease coming by the way of the sea.

What does the maritime quarantine really mean and involve? The last International Conference that concluded its labors was the one held at Vienna in 1874, and for these nations preferring to trust in quarantine, the period of its application was set down by that assembly as seven days. Under this system, vessels from infected ports, and in which a case either of cholera or of suspected cholera has occurred during the voyage, must discharge all their crews and passengers, healthy and sick alike, at some lazaret for a period of seven days. Theoretically, those landed are to be divided in groups, and if amongst any such group a case of sickness, held to be suspicious of cholera, occurs during the seven days, that

group, or the whole if ungrouped, must be retained for a further seven days, and so on *ad infinitum*. Anyone communicating either with the ship or with the persons landed is suspected, and must himself be placed in quarantine; and thus the absolute isolation of the ship, crew, and passengers is aimed at. Apply the practice in fancy to such ports as Suez, Toulon, Southampton, London, and Liverpool, when cholera prevails in India, China, and Tonkin. Vessel after vessel, troopships, mail steamers, and merchantmen, pass as it were in one continuous line from the east to these ports, conveying human freights often varying from hundreds to some two thousand a piece. How is this endless line of vessels to be thus dealt with? The truth is, that not a single nation professing to put its faith in maritime quarantine has ever made so much as an honest attempt to deal with the circumstances described, and the result is that when the system is applied it breaks down at its most vital but weakest link. A desperate struggle has been made to uphold this system in the Red Sea, professedly for the protection of Europe, and also in the Mediterranean, but the system is altogether delusive.

France, as I have explained, is a quarantine country, and in 1884 she had full knowledge of the fact that her ports were in constant communication with Tonkin, where cholera was then prevailing. This, however, did not prevent the importation of the disease into Toulon in June of that year. Thence cholera spread to Marseilles and other French cities and towns, until, by the close of the year, some five thousand deaths had taken place, this being followed by a renewed epidemic in 1885. Italy, learning of cholera in France, at once imposed measures of quarantine on all her coasts and frontiers. But the disease passed freely through the barrier and entered by the sea—as well as by land—first attacking the coast and frontier provinces. By the close of the year her official record told of 14,299 cholera deaths, 3,459 more following

in 1885, the disease being maintained during 1886, and even to the present date. Algeria, only approachable from France by sea, imposed stringent measures of quarantine at all her ports, but the disease made its way in by those very ports, and spread east and west along the coast line. Spain is a strictly quarantine country, and she, too, laid down rigid quarantine regulations against France, Italy, Algeria, and other countries. But cholera entered by a maritime province, the result being an initial epidemic in 1884, and no less than 119,620 deaths in 1885. So much for cholera prevention in countries resorting to their own approved measures of restriction.

But some say, "If cholera can not be prevented from spreading when once it has been imported into Europe, let us at least check it in the Red Sea and prevent it entering the Mediterranean." Even our own delegates, while determined to discard quarantine for their own country, were not unwilling to authorize this experiment at the Vienna Conference, but overwhelming evidence has been accumulating since that date to prove the futility of the measure. A proper quarantine station in the Red Sea has ever been admitted to be the first essential for success by quarantining nations, and this especially since the opening of the Suez Canal. But to this day no such thing exists, and if the thousands on board the many transport ships, mail steamers, and merchantmen which pass from the East to Europe were really set ashore at the appointed places on the desert coast of Arabia, the result would probably be appalling. Even the most obvious sanitary requirements and the commonest decencies of life are absent. In the autumn following the Rome Conference, at which France again took the lead in advocating the quarantine system for repeated five-day periods, two French transports, the *Château Yquem* and the *Nive* were ordered into quarantine at El Tor on the east coast of the Red Sea. But as soon as the second vessel arrived the Director of

the Encampment telegraphed that if there were any sickness on board it could only be aggravated by such a measure as had been ordered, and in the end, and apparently just to maintain an effete form, some of the healthy were landed, and the sick, with whom danger would presumably lie, had to be retained on board. As a matter of fact there was no cholera to isolate; but had there been, nothing could more have induced to the spread of that disease, and to favor the decimation of those landed on the wretched wilderness, alternately swamp and sand, which goes by the name of a quarantine station.

So far as this nation is concerned, I trust these antiquated measures have met with their death blow; and in this connection I ask you to note what I believe to be an essential ground for some of the tenacity with which they are upheld—I mean their financial aspect. Last October information was received from Perim, at the entrance to the Red Sea, to the effect that four deaths from cholera had occurred on board H. M. troopship *Euphrates* since she left Bombay. On her arrival at Suez two convalescents still remained, and in accordance with regulations the ship and her complement of over a thousand persons was ordered 130 miles down the Gulf of Suez to the quarantine station. The answer of our Government was that unless the vessel were allowed to pass into the Mediterranean, which she would do without communication with the shore, she would take the Cape route home. Now the prosperity of Suez, its canal and its staff of officials, is largely dependent on fees and dues, and immediately the imperative necessity of imposing quarantine for the protection of Europe at this her Eastern gate was ignored and the vessel was allowed to pass. The right for such passage is in effect what the British Delegation demanded at Rome. We were willing that each nation should make what arrangements it chose, whether in Europe or at Suez, for its own shipping and for the protection of its own

ports; we were willing that our vessels should touch nowhere on their homeward journey, but we demanded that those sailing for our own ports should pass unhindered through the Suez Canal as an arm of the sea, to be dealt with on arrival at our ports under our own system of cholera prevention. Such are the essential features of the maritime quarantine; such are the results that ensue upon the pretence to carry out the process. The ten-days' quarantine advocated by the Constantinople Conference in 1866 has failed; the seven days', recommended at Vienna, in 1874, has also failed; and yet a majority of the Technical Commission of the Rome Conference, acting on the initiative of France, could suggest no better international remedy than a still further reduction of the period to five days, the true nature of a vigorous quarantine detention being obscured under the name of "period of observation." Indeed, this very month the system is again being urged by France upon an International Conference sitting at Havre.

But what is our alternative system? Having deliberately abandoned the system of quarantine, we began many years ago to organize the system of medical inspection with isolation. The medical inspection comes first into operation on our coasts. The customs officers board the vessels coming into our ports, and they at once communicate to the sanitary authority the occurrence of any case of cholera, choleraic diarrhea, or suspected cholera. A vessel so affected is detained until the medical officer of health has examined every member of the crew and passengers. Those actually sick of cholera or choleraic diarrhea are at once removed to the port sanitary hospital, and any person certified to be suffering from any illness which that officer suspects may prove to be cholera is detained for a true period of observation not exceeding two days. The medical inspection is thus followed by isolation of the sick. Unlike a quarantine system, this process does not interfere with the

healthy, or expose them to risk by herding them together with the sick, but the names of the healthy and the places of their destination are taken down, and the medical officers of health of the districts in question are informed of the impending arrivals. This part of our system has been named our first line of defence, but it would be of but little value if we stopped there. Our main trust is in the promotion of such local sanitary administration in every part of the country as shall rid us of the conditions under which alone cholera can spread. In periods of emergency, as during the past three years, a special medical survey of such districts as seem most exposed to risk is organized under the supervision of a medical officer of the Local Government Board, and where needed the sanitary authorities are urged to action. Important as have been the results of the recent survey, they would go for little were it not for the steadily maintained work of sanitary authorities and their officers throughout the kingdom; and we who have been taunted abroad for opposing quarantine because its restrictions touched our commercial interests and our pockets may justly feel proud that in England and Wales alone the people have, during the past ten years, of their own accord, and apart from government dictation, spent, by way of loan or in current expenditure, over eighty millions sterling for purposes mainly of a sanitary character. Indeed, we may fairly ask whether any corresponding expenditure has in other countries given evidence of real faith in a quarantine system.

The truth is that this kingdom still takes the lead as a progressive power in the matter of public health. The cost incurred has been immense, but it has not been in vain or unremunerative. Our cholera death-rate, which was 30 per 10,000 in 1849, fell to 11 in 1854, and again to 7 in 1866. Since then we have labored hard to prevent the disease from securing a footing amongst us; and though our labors are far from complete, and the disease has on several occasions

been imported, yet it has each time been at once checked. Our "fever" death-rate, falling with the advance of sanitation, is now less than one third of what it was before 1866; and our general death-rate has during the same period been reduced from about 22 to 19 per 1,000. Public health has truly been said to go hand in hand with public wealth, and while our national prosperity has thus been promoted, the lives and the health of tens of thousands have been secured, while our fellow men have been largely spared that form of destitution and misery which is the more burdensome because it follows in the track of preventable disease and death.

The system of quarantine has again and again shown itself to be impotent for good, and being so, its vexations and inhuman characteristics stand out the more prominently. Above all, it has a blighting effect upon sanitary progress. So long as governments tell their people that a line shall be drawn around them across which disease shall not pass, so long will those people be reluctant to spend their money on the promotion of true measures of prevention. The quarantining countries are essentially those which cholera invades; taken as a group they are those where true sanitary progress is at its lowest ebb; and with the experience we have before us, I would, in conclusion, ask much in the words I used at the Rome Conference: Is it likely that this nation will sacrifice her well-tried system of prevention for a restriction of five days' quarantine?

PREVENTION OF

YELLOW FEVER.*

If yellow fever should again appear in the United States an opportunity to test Friere's vaccinal prophylactic would be presented. At the International Congress at Washington resolutions were adopted giving quassi endorsement to Friere's vaccinal protection. It may be assumed that the National authorities would favor a trial of this method.

BOOKS AND PERIODICALS.

TRANSACTIONS
OF THE MEDICAL
ASSOCIATION
OF THE STATE
OF MISSOURI.

Thirtieth annual session.—
Held at Macon City, May
10, 1887.—160 oct. pages.

President, Frank J. Lutz,
St. Louis; Recording Sec-
retaries, J. C. Mulhall, of
St. Louis, J. H. Duncan, of
Kansas City; Correspond-
ing Secretary, W. E. Evans,
of Boonville.

The presidential address was delivered by J. W. Jackson, of Kansas City. It is, of course, devoted in part to the consideration of medical education. In some points it is above the average of its class. "Neuro-therapeutics" forms the subject of an essay by Dr. B. F. Wilson, of

Salisbury. He thinks, "Alcohol in many pathological conditions is life itself, as clinically demonstrated in conservation of the tissue, and in regulation adjustment of the vital functions; but in health it is a deadly anesthetic and paralyzant." Dr. J. H. Thompson, of Kansas City, contributes a valuable clinical record, which might be taken as a model for others who choose to make clinical reports. Dr. Thompson makes a clear, strong, and scientific analysis of his cases. "The Personal Qualifications of the Surgeon," by Dr. H. H. Middelkamp, of Warrenton, is a novel sort of an essay. He says, "Rare common sense is a gift of nature, which is of indispensable value to the surgeon. Industrious habits, combined with a sound, healthy, and vigorous body, are indispensable to the working surgeon." "A Case of Biliary Calculus with Absence of the Gall Bladder," is reported by Dr. Tinsley Brown, of Hamilton. "The Proper Food for Infants and Children," is discussed by Dr. B. F. Hart, of Brownsville. "State Medicine" is considered by J. M. Allen, of Liberty. Then appears the report of a Committee on the "Anatomy Act." The act provides that persons dying in eleemosynary institutions, or other persons who are to be buried at public expense, shall be available for purposes of dissection in the regularly chartered medical colleges of the Commonwealth. This act shows the good result of

harmonious action in the ranks of the medical profession. "Milk as a Medium of Infection" forms the subject of a well written essay by Dr. Garland Hurt, of St. Louis. Dr. G. M. Dewey, of Keytesville, writes on "Medical Delusions." Judging by this essay, Dr. Dewey has so many delusions about medicine that it would appear dangerous to turn him loose upon an unprotected community. Speaking of Rhinology and its pompous failures the essayist says:

"An old engine and a hose,
To squirt the cure all up the nose,
The chief reliance of the loot
To treat diseases of the snoot."

A valuable contribution to the literature of Dermatitis Medicamentosa is made by Dr. Ohmann-Dumesnil. "The Rarer Form of Abdominal Tumors" is the subject of an essay by the president elect, Dr. Lutz, of St. Louis. "The Early Recognition of Hip Disease," by Dr. A. J. Steel, of St. Louis, is a valuable paper. "Hypertrophy and Atrophy of the Nasal Mucous Membrane," by Thomas F. Rumbold, is a contribution well calculated to interest a majority of the readers of medical literature. Dr. William Dickinson, of St. Louis, makes a scholarly contribution to "The Relations of Gray Atrophy of the Optic Nerve to Facial Erysipelas." Dr. Barck, of St. Louis, reports a case of "Abscess of the Brain from Neglected Disease of the Ear." The Constitution and By-laws of the Society, with a list of the standing committees of the ensuing year, form the concluding portions of the book.

Unfortunately, the membership in the State Society of Missouri is not half so large as it should be. It appears from the Treasurer's report that but seventy-two members paid dues during the past year. From the minutes it does not appear that any new names were added to the list of members at the last meeting. It is a shame, and a disgrace, in fact, to the entire medical profession that so little interest is taken in maintaining State organizations.

CORRESPONDENCE AND SOCIETIES.

NINTH INTER-
NATIONAL
MEDICAL
CONGRESS.

Held at Washington, D. C.,
September 5, 6, 7, 8, 9,
and 10, 1887.

[Reported for PROGRESS.]

The capacity of Al-
baugh's Opera House
was tested to its ut-
most when, at 11
o'clock, the members
of Congress and their
friends and families
attended to witness

the inaugural ceremony. The building was packed to its utmost limits, every point of vantage being appropriated. Long before the appointed hour every seat was taken, and the later arrivals had to content themselves with a view afar off. The fact of the audience being mainly composed of medical men gave a peculiar and striking physiognomy to the sea of faces as seen from the stage, very different from that to which one is accustomed in opera houses. There were representatives from every corner of the globe. It made one think of the old story of the lion and the lamb lying down together. That millennium has still to come; but it proves that science has no boundaries and art no fatherland.

At 11 o'clock Prof. Henry H. Smith rose to introduce the President of the United States, who, together with Hon. Thos. F. Bayard, were present to assist at the opening of the Congress. The arrival of the President was somewhat unexpected, and was the occasion for great and prolonged cheering. As soon as the applause had somewhat subsided the President in a few words said he felt he ought to congratulate the country upon the presence in their Capital of so many of their own citizens and those representing foreign countries who had distinguished themselves in the science of medicine and had devoted themselves to its further progress. His own duty on that occasion, he said, was a very simple one. He had simply to declare that the Ninth International Medical Congress was then open for organization and for the transaction of business.

The Chairman of the Executive Commit-

tee, Dr. H. H. Smith, then proceeded to nominate the officers as selected by the Committee on Organization; President, Dr. Nathan S. Davis, of Chicago. The proposal having been agreed to by acclamation, Dr. Nathan S. Davis took the chair. Dr. J. B. Hamilton was then elected Secretary General and proceeded to submit the list of Vice-Presidents, as follows:

United States—Surgeon General Moore, of the Army, and Surgeon General Gunnell, of the Navy (*ex officio*); Dr. Wm. Brodie, Detroit; Dr. W. W. Dawson, Cincinnati; Dr. A. Y. P. Garnett, Washington; Dr. Edward M. Moore, Rochester; Dr. Tobias Richardson, New Orleans; Dr. Lewis A. Sayre, New York; Dr. Joseph R. Smith, New York; Dr. J. M. Toner, Washington.

London—Dr. Cuthbert H. G. Bird, Dr. A. Pearce Gould, Mr. Ernst Hart, Dr. Jonathan Hutchinson, Sir James A. Hambury, Sir William Jenner, Dr. Fred B. Jessett, Dr. William H. Lloyd, Dr. William Murrell, Dr. Jeffrey A. Marston, Mr. Thomas J. MacLargen, Dr. John Marshall, Dr. Morell Mackenzie, Dr. William A. MacKinnon, Dr. Charles D. F. Phillips, Mr. Richard Quain, Sir John W. Reed, K. C. B.; Mr. William H. Savony, Sir Edward H. Seiveking, Dr. John Tweedy, Sir Henry Thompson, Sir William W. Gull.

England—Dr. J. Ewart, Brighton; Sir B. Walter Foster, Birmingham; Sir Thomas Longmore, Netley; Dr. John D. McDonald, Surrey; Dr. John Withers, Brighton; Sir William Roberts, Manchester; Dr. John B. Sanderson, Oxford; Dr. Lawson Tait, F. R. C. S., Birmingham; Sir John Tomes, Surrey; Dr. George M. Humphrey, Cambridge.

Scotland—Dr. McCall Anderson, Glasgow; Dr. Thomas Annandale, Dr. John Chieve, Dr. T. R. Frazer, Sir Douglass MacLagan, Sir William Turner, Edinburgh; Dr. George H. B. Macleod, Glasgow.

Germany—Dr. William Coler, Berlin; Dr. Frederick Esmarch, Kiel; Dr. A. L.

Gurseron, Dr. W. D. Muller, Berlin; Dr. Carl Von Mosengsil, Bonn; Dr. G. Unna, Hamburg; Dr. Waldeyer, Berlin; Prof. E. Winckel, Munich.

France—Dr. Dujardin Beaumetz, Prof. A. Charpentier, Dr. A. Chervin, Dr. Valin, Prof. Trelat, Dr. Leon Sable, Paris.

Austria—Professor Carl Braun, Vienna; Dr. Wendefer, Wren; Dr. Hans R. Von Hebra, Vienna.

Switzerland—Dr. F. Dumont, Dr. Theo. Kocher, Berne.

Italy—Dr. Francesco Durante, Rome; Dr. O. Morisiani, Dr. Mariano Semmola, Naples.

Egypt—Dr. J. A. S. Grant, Bey, Cairo.

Nova Scotia—Dr. Thos. M. Dolan, Halifax.

Canada—Dr. Q. A. Grant, Ottawa.

Cuba—Dr. Nicholas José Gutierrez, Havana.

Denmark—Dr. Wilhelm Meyer, Copenhagen.

Honolulu—Dr. John S. McGrew.

Belgium—Dr. Leopold Servais, Antwerp.

Ireland—Sir William Stokes, Dublin.

East Indies—Dr. George J. H. Evatt.

Holland—Dr. J. E. de Virij, Hague.

The list was, on motion, agreed to. The election of officers having been completed, the Secretary General proceeded to read his report of what had taken place since the last Congress. He pointed out that in consequence of the retirement of the members of the original committee after a representative meeting at New Orleans, in 1885, they had been deprived of their experience and assistance. The committee then appointed had therefore to contend with more than the usual difficulties inseparable from so vast an undertaking. The success which had attended these efforts was largely due to the energy of Dr. H. H. Smith, who had been indefatigable in his exertions. He was enabled to report that no unfinished work remained on his table. The work of organization had been completed, the programme of which he submitted to Congress

in the volume of abstracts. He mentioned that in scarcely a single instance had the rule as to the dispatch of the manuscripts been complied with, and the majority had been received too late to allow of careful revision and correction. He referred to Dr. Garnett for information as to the social features of the programme.

The President of the Congress then called upon the Hon. Thomas F. Bayard, Secretary of State for the United States, who delivered the following address:

MR. PRESIDENT AND GENTLEMEN—The pleasant duty has been assigned to me to welcome you in the name of our fellow-countrymen, and to express the gratification which we all feel that you have selected this Capital as the scene of your ninth Congress. I bid you, therefore, cordially welcome. The world is becoming better acquainted, social assimilation is progressing, small provinces and minor kingdoms are federalizing into great international associations. A broad and powerful current of literature is slowly wearing away the banks of artificial prejudices, and a spirit of common brotherhood is extending its irresistible power over the barriers of mountain and sea, and these new and beneficent conditions give promise that the word *stranger* shall soon be obliterated from the vocabulary of civilization. You, gentlemen, I hope will not feel, and I am sure you will not be considered by us, as strangers in the United States, for not only has the fame of many of your number, whose names it would be invidious to mention, long since passed the limits of your own land; but I beg leave to say that more especially here, with your claims to public respect and the acknowledgment due to your services, you will meet with a warm and hearty welcome among the population who dwell, with civil and religious liberty, beneath the broad banner of these United States. If letters be a republic, surely science is a democracy, penetrated by no royal road, but open on all sides and equally to all people who, with humility and intelligence, shall watch and work for light as it is gradually disclosed by Divine Providence for human amelioration. In this democratic republic the brotherhood of science can best realize its importance, for here you will find institutions for the promotion of science in every department, and in none more conspicuously than in that of medicine and surgery, the most important of which are the voluntary gifts of private citizens, who, in a great majority of cases, were

painfully limited in their associations with science and letters, who began life at the lowest round of fortune's ladder. Thanks, however, to their energy, they rose without a bar to the highest level of success and usefulness. To the public spirit and benevolence of such individuals is due the endowment on a scale which princes may envy but have never surpassed of institutions for the intellectual development of all who desire to share and are competent to receive its benefits. Your Congress, gentlemen, is held in the closing year of the first century of our national existence, and what has been done here in the line of educational equipment is due very little to government assistance. To no system of prescriptive privilege, but to individual enterprise, energy, and generosity do we owe what, under God, we now possess of such thing, and non-interference by the government has proved a promotion and not a hindrance to our advancement. We are, however, by no means indifferent to the claims of humanity, nor wanting in respect to the victories of science. We welcome this Congress as the guardians of the sanitation of the nations. In your profession we recognize the noblest school of human usefulness, and in the presence of the development of the means of cure, the amelioration of suffering, the prolongation of human existence, the endeavor to discover the true principles by which life can be made worth living, we can learn our duties to those whose reward is the still small voice of an approving conscience and the sense of duty accomplished.

Gentlemen, I confidently promise your convention a worthy audience, not only the members of your profession nor the members that this building may contain, but that vaster audience to whom, on the wings of electrical force, your message will be borne far and wide into the ears of sixty millions of American citizens. Sure am I that your message will be worthy and welcomed over the entire continent. The good is obvious of frequent International Congresses, in the grand sweep of scientific observation, new discoveries in the healing art may be promptly vested and applied in contra-indication. Permit me, however, as one of the great army of patients, to petition you as a body to leave a small space in your calculations for nature where remedies are proposed. This may be merely a caprice, but I can not help thinking that science should be restricted as often as possible to sounding the alarm to nature to hasten, as she doubtless will, to the point that has been assailed. My duty is simple and I have already almost overstepped its limits. What I have to do reminds me of the little story told of an an-

cient dame who lived near the field of Waterloo. Being deaf and hearing the sound of furious artillery, she thought it was some one knocking at the door, and simply said, "Come in." This may seem to you a simple illustration of auscultation and percussion, but you need not make half the noise of Wellington or Bonaparte and the American people will hear you and say, as I now say to you, "Come in." [Prolonged applause.]

The President then called upon Dr. D. Pavy, of London, but as this gentleman was absent, he called upon Dr. W. H. Lloyd, Deputy Inspector General of the Royal Navy, to address the meeting.

Dr. Lloyd said :

I rise to perform an agreeable task entrusted to me of returning thanks on behalf of the medical profession of Great Britain and Ireland, as represented by my professional brethren and myself, for the warm and eloquent welcome which has been accorded to us by the Secretary of State. It is with great diffidence that I rise in the presence of so many illustrious men whose names are known throughout the civilized world; and I would not have undertaken this were it not that I had been selected as representative of one of the British public services. I can only express my sense of the admirable way which we have been received by high officers of the State of this truly great country.

Dr. Léon Le Fort, of Paris, speaking in French, thanked them for their amiable welcome. He alluded to the pleasure which the sight of the colossal Statue of Liberty had afforded them on their arrival at New York, attesting as it did the affection of the French for the American people. It was to him a pleasure to bear witness to the services rendered by Americans to the cause of science, one of the greatest of which was the introduction of anesthesia, the value of which to the surgeon and to the patient it was unnecessary to insist upon. He expressed the hope that this Congress would prove an even greater success than its predecessors. In conclusion he once more thanked them for their warm greeting.

Professor Unna, of Hamburg, then made a short speech in German to the effect that Germans were peculiarly at home in this country, many of the medical men here hav-

ing studied in Germany. German science, moreover, had taken root in America in a way it had perhaps not done elsewhere and had already borne good fruit. His colleagues and himself had come with joy to adding to the success of the Congress, and in conclusion he expressed their gratitude for the cordial reception which had been afforded to them.

Senator Semmola, of Italy, speaking in French, said he wished to bear testimony to the wonderful progress effected in science and industry in this country, and more especially in medicine. He expressed his regret at having to speak in a foreign language. The hearty welcome they had received was only what was to have been expected from so great a people as the Americans who were known for their intelligence and their hard work, and especially for their hospitality. He thought that scientific congresses were one of the best means of affirming the grand principle of the fraternity of peoples, and he felt sure that this one was destined to have a considerable influence on the cherished soil of independence. The greatest example of what humanity could achieve was shown when science and liberty were allied.

Professor Reyher, of St. Petersburg, excused his broken English on the ground that if he spoke in Russian he might not be understood. He echoed the sentiments which had been expressed for their kind reception.

ADDRESS BY

THE PRESIDENT,

DR. N. S. DAVIS.

GENTLEMEN—It is my duty to remind you that if there were one to whom more than another we are indebted for having the

Ninth International Medical Congress in America, one who was well known for his contributions to medical literature, who was universally regretted as the most national leader in literary work, and had been selected to preside over your deliberations on this occasion, it was the late Dr. Austin Flint, of New York. He was taken from his earthly labors early in 1886, before the work of this Congress had been half completed. His ability, and the number and character of his contributions to medical literature, had caused him to be

known and esteemed in the profession in all countries, and his loss seems now, as it did immediately after his death, well nigh irreparable. But though he has taken his departure the influence of his excellent example and his scientific work remains and will continue to exert a beneficial influence over generations to come. Leaving this sad part of my task with a heart overflowing with gratitude to him and a sense of my own deficiencies, I thank you for the honor you have bestowed in selecting me to preside over the deliberations of this great and learned assembly. It is an honor that I appreciate as second to no other of a temporal nature, because it has been bestowed neither by conquest nor hereditary influence, nor yet by partisan strife, but by the free expression of your own choice.

Addressing myself now more directly to those here assembled, who have left homes and loved ones in other lands and encountered the fatigue and danger of traveling by sea and by land, in the name of the Medical Profession of this country, I welcome you, not only to this beautiful city and the hospitality of its citizens, as has been so admirably done already by the honorable representative of the Government, who has just taken his seat, but I cordially welcome you to the open arms and warm hearts of the medical men of this *whole country*, in whose name you were invited here three years since, and whose representatives are now here, side by side with you, gathered from the East, the West, the North, the South, as well as from the rugged mountains and fertile valleys of the Center, to make good the promise implied by that invitation.

If they do not cause you to feel at home and happy, not only in the social circles and halls devoted to the advancement of science, literature, and art in this city of our Nation's pride, but wherever you may choose to roam, from the rocky coast of New England on the Atlantic to the Golden Gate of the Pacific, it will be from no want of earnest disposition to do so.

And now I not only thus welcome you from other lands, but I take great pleasure in greeting you one and all as leading representatives of a profession whose paramount object is the lessening of human suffering by preventing, alleviating, or curing diseases wherever found and in whatever class or grade of the human family. Nay, more. With profound reverence I greet you as a noble brotherhood, who, in the practical pursuit of that one grand object, recognize no distinction of country, race, or creed, but bind up the wounds and assuage the pains of the rich and poor, ruler and ruled, Christian and Pagan, friend and foe alike.

Not that every medical man does not love and defend his own country and fireside with as fervid a patriotism as the members of any class of men, but as disease and pain are limited to no class or country, so is the application of his beneficent art limited only by the number of those suffering within his reach.

With a common object so beneficent in its nature, and opportunities for its practical pursuit so universal, it is but natural that you should be found searching for the most effectual means for the accomplishment of the one object of lessening human suffering in every field of nature and in every department of human knowledge.

The living human body, the chief object of your solicitude, not only combines in itself the greatest number of elementary substances and the most numerous organs and varied functions, so attuned to harmonious action as to illustrate the operation of every law of physics, every known force in nature, and every step in the development of living matter, from the simple aggregation of protoplasm constituting the germinal cell to the full-grown man, but it is placed in appreciable and important relations with the material objects and immaterial forces existing in the world in which he lives.

Hence, a complete study of the living man, in health and disease, involves a thorough study, not only of his structure and functions, but more or less of every element and force entering into the earth, the air, and the water with which he stands in constant relation.

The medical science of to-day, therefore, embraces not only a knowledge of the living man, but also of such facts, principles, and materials gathered from every other department of human knowledge as may increase your resources for preventing or alleviating his suffering and of prolonging his life.

The time has been when medical studies embraced little else than the fanciful theories and arbitrary dogmas of a few leading minds, each of which became for the time the founder of a sect or so-called school of medicine, with his disciples more or less numerous. But with the development of general and analytical chemistry, of the several departments of natural science, of a more practical knowledge of physics, and the adoption of inductive processes of reasoning, the age of theoretical dogmas and of medical sects blindly following some more plausible leader passed away, leaving but an *infinitesimal* shadow yet visible on the medical horizon.

So true is this that in casting our mental vision to-day over the broad domain of medicine we see its votaries engaged, some searching for new facts and new materials; some studying new applica-

tions and better uses of facts and materials already known; some of them are in the dead house with scalpel and microscope, not only studying the position and relations of every part, from the obvious bones and muscles to the smallest leucocyte, in health, but also every deviation caused by morbid action or disease. Some are searching the fields, the forests, the earth, and the air, both for more knowledge concerning the causes of disease and for additional remedial agents; some are in laboratories with crucible, test-glass, and microscope analyzing every morbid product and every remedial agent, separating the active principles from the crude materials and demonstrating their action on living animals, while far the greater number are at the bedside of the sick and wounded applying the knowledge gained by all other workers to the relief of human suffering. A more active, earnest, ceaseless, and beneficent field of labor is not open to your vision in any other direction or occupied by any other profession or class of men. And thus has the Science of Medicine become a vast aggregation of observed facts, many of them so related to each other as to permit practical deductions of permanent value, while many others remain isolated through incompleteness of investigations, and therefore liable to prompt, hasty, or even erroneous conclusions.

Indeed, the most defective and embarrassing feature in the Science and Art of Medicine at this time is the rapid accumulation of facts furnished by the vast number of individual workers, each pushing investigations in some special direction without concert with his fellows and without any adequate conception of the coincident lines of observation necessary to enable him to see the true bearing of the facts he evolves. Hence he is constantly mistaking mere coincidences for the relation of cause and effect, and the pages of our medical literature are being filled with hastily formed conclusions and rules of practice from inadequate data.

This results, in part at least, from the extent and variety of the fields of inquiry and the complexity of the problems presented for solution. For nowhere else within the realms of human thought does the mind encounter problems requiring for their correct solution the consideration of a greater number of data than in the study of etiology and pathology. To determine the appreciable conditions of the earth, air, and water of any country before, during, and after the invasion of an epidemic disease long enough to include several consecutive visits of the same, is not possible for a single individual nor for any number of observers acting separately or without concert.

Yet just this complete knowledge is necessary to enable us to separate the conditions that are merely coincident or accidental from those that are such constant accompaniments of the disease as to prove a necessary relation between them. And it is only by such persistent, coincident, systematic observations of many individuals, each having a definite part, and the results carefully compared analytically and synthetically at proper intervals, that the real conditions and laws controlling the prevalence and severity of epidemics and endemics can be clearly demonstrated. It is not enough to discover the primary infection, or the *contagium vivum*, whether it be the bacillus of cholera, yellow fever, or tuberculosis; for abundant experience has shown that not one of these will extend its ravages in any community or country unless it finds there is a soil or pabulum congenial for its support and propagation.

It is on the development and diffusion of knowledge concerning the local conditions necessary for receiving and propagating the specific infections of disease that nearly all the important sanitary measures of modern times have been based. And it is on a further development of knowledge in the same direction, gained by more systematic, continuous, and coincident investigation that we shall most successfully protect our race from the pestilences that have hitherto "walked in darkness and wasted at noonday."

It was the extensive and ever-extending field of medical science, the complexity of the problems pressing for solution, and still more, the individual responsibility of applying the resources at command to the direct treatment of disease, that early disposed medical men to seek each other's counsel, to form groups or clubs for comparison of views and mutual improvement. The manifest advantages of these soon prompted more extended social gatherings, until at the present time a large proportion of the more active members of the profession in every civilized country are participating in municipal, district, national, and international medical organizations.

The aggregate benefit derived from all this active intercourse is beyond easy expression in words. In the more frequent and familiar comparison of cases and views on all professional subjects in the local societies, closer habits of observation and a wider range of thought are induced, while narrow prejudices and bigotry give place to generous rivalry and personal friendships. In the larger gatherings the formal preparation of papers and reports on a great variety of subjects impels their authors to a wider range of study and greater mental discipline, while the collision with other

minds in discussion brings all aspects of the subject to view, enlarging the scope of mental vision, starting new trains of thought, and begetting a broader and stronger mental grasp with purer and nobler aims in life.

I think I am justified in saying that no other one influence operative in human society during the present century has done as much to develop and diffuse medical knowledge, to stimulate its practical and successful application, both in sanitary measures for preventing disease and in the direct alleviation of suffering at the bedside, and in unifying and ennobling the profession itself as has been accomplished by the aggregate medical society organizations of the world. Yet their capacity for conferring other and perhaps still greater benefits, under proper management, will have become manifest in the near future. And that I may accomplish the chief object of this address, I must ask your indulgence while I indicate some of the more important additional benefits in advancing medical science and saving human life through the instrumentality of our medical society organizations and the methods by which they may be accomplished.

Every experienced and intelligent practitioner of the healing art is familiar with the fact that all acute general diseases are influenced in their prevalence and severity by seasons of the year, topographical and other conditions of the earth, meteorological conditions of the atmosphere, and the social condition and habits of the people themselves. The most familiar endemics vary annually in the same localities, while the great epidemics that have for ages broken over the comparatively limited boundaries of their habits only at intervals of years, and extended their ravages from country to country, and receded again to the source from which they apparently originated, differ widely in the different periods of their prevalence. But in studying the essential causes of any one of these general diseases and the laws and conditions under which such causes operate, he soon finds certain factors essential for the solution of his problems wanting.

For instance, if he wishes to identify the date of the first attack of epidemic cholera in a given locality, and the character of bowel affections immediately preceding, the ordinary statistics of mortality will give him only the date of death, which may have been from one to seven days later, or it may have been preceded by one or more cases that recovered. If he is anxious to determine the reason why the disease, on entering one community, develops with such rapidity that in a few days its victims are found in every grade of the

population and in almost every street, while in another it develops slowly, adhering persistently to particular classes or localities, he may find in the ordinary meteorological records the thermometric, barometric, and hygrometric conditions of the atmosphere, with the direction and the velocity of the wind, but he finds nothing regarding those important though variable elements known as ozone and hydrogen peroxide, active oxidizers, or those nitrogenous products called free and albuminoid ammonia. Neither do the sanitary records give the desired information concerning the composition and impregnations of the soil or of the organic or inorganic emanations that may arise therefrom.

An adequate knowledge of these absent factors relating to the condition of the earth, air, and water over districts large enough to embrace localities subject to invasions of the epidemics and others known to be exempt through a sufficient length of time to cover several periods of prevalence and periods of absence alike, is essential for enabling us to comprehend the causes that make one district amenable to the prevalence of a disease and another not, as well as the marked differences in the severity and mode of progress of the same disease at different periods in the same localities and same classes of the people. The same additional knowledge would also furnish the basis for further sanitary measures of the greatest practical value.

And yet it must be obvious that the co-operation of numbers of medical men directly engaged in the field of general practice, with others possessed of more practical facilities for chemical and microscopical research, is necessary for successfully prosecuting such coincident and continuous investigations as would be likely to secure the desired results. Only well-trained general practitioners in every locality chosen for observation could observe and record the date of the initial symptoms of acute general diseases coming under their notice, and at stated intervals collate and report them to a central committee. The daily observations concerning the presence and relative proportion of active oxidizers and of nitrogenous organic elements in the atmosphere and the water would require the selection of one or two experts in chemical and microscopical research for each locality, all making their observations coincidentally in time and by uniform methods.

There are included in the organized medical associations of each country the men and materials necessary for prosecuting every well-defined line of inquiry; and these associations, by their stated meetings and their facilities for intercommunica-

tion and concert of action, present the entire machinery needed, and are only waiting for well-planned and systematic use.

The tendency to make the permanent medical organizations available for prosecuting work in the directions I have indicated has already been manifested to a limited extent, as may be seen in the formation of the Collective Investigation Committee of the British Medical Association and of the International Collective Investigation Committee, organized during the sitting of the Eighth International Congress at Copenhagen.

An earlier movement more fully of the character I have been endeavoring to explain was made by the American Medical Association in 1875, when a standing committee was appointed to establish in a sufficient number of localities regular coincident daily observations and records concerning all appreciable meteorological conditions, including organic and inorganic elements found in the atmosphere, and the date of beginning of acute general diseases, and report the results at each annual meeting of the association.

The committee made reports embodying facts of interest and permanent value in 1877, in 1879, in 1881, in 1882, and in 1883. The latter report contains, among other items, a complete tabulated statement of the free and albuminoid ammonia in the atmosphere for every day in the year ending Aug. 31, 1883, as determined for the committee by Prof. J. H. Long in connection with the laboratory of the Chicago Medical College. The committee is still prosecuting its work with material in hand for a still more important report at an early day. The greatest difficulty encountered has been to enlist a sufficient number of active practitioners in each locality who would faithfully record the desired clinical facts and report the results to the committee. But this and all other obstacles can be overcome by per-evering and well-directed work.

I trust no apology is needed for having embraced this occasion to attract your attention to the very important question how to make all our medical associations more useful in promoting the science of medicine by more complete methods of investigation, especially in directions where the coincident action of several persons in different places is essential for success.

I fully appreciate the great benefit resulting from the simple mingling of large numbers of medical men in social contact where each is made to hear constantly, whether on the street, in the hotel, or the assembly room, new suggestions, new modes of expression, and to observe the physical and mental effects in the various habits and customs of the different peoples until each one leaves

the general gathering with largely increased mental activity and resources, as was so happily expressed by Sir James Paget in his address to the Congress of 1881 in London; and I appreciate in a still higher degree the benefits derived from the preparation and reading of papers by individuals and the discussion of important questions in all our assemblies.

But for reasons I have already briefly stated, I hope to see added in every permanent general medical society two standing committees—one, to whom should be referred for critical examination every communication claiming to embody a new discovery in either the science or art of medicine, and the other should be charged with the work of devising such lines of investigation for developing additional knowledge as require the co-operation of different individuals, and perhaps societies, and of superintending their efficient execution until crowned with success.

If ten or twenty per cent of the money paid for initiation and membership dues by the members of each society were appropriated and judiciously expended in the prosecution of such systematic and continuous investigations from year to year it would accomplish more in advancing medical science directly and indirectly in benefiting the human race than ten times that amount would accomplish if expended in any other direction, for it must be remembered that when money is expended for material objects, even for food, clothing, or medicine, such materials feed, clothe, or relieve but one set of needy individuals and are themselves consumed; but the expenditure of money and time in such a way as to develop a new fact capable of practical application, either in preventing, alleviating, or curing of disease, that fact does not, like the food or medicine, perish with the using, but it becomes literally imperishable. Neither are its benefits limited to one set of individuals, but it is transmitted with the speed of lightning over the land and under the sea to every civilized people; and whatever benefits it is capable of conferring are as capable of being applied to a million as to one, and of being repeated with increasing efficiency from generation to generation.

It has been tersely and correctly stated that associated action constitutes the characteristic and predominating power of the age in which we live.

It is by associated action that education in its broadest sense, religion, and civilization have been more rapidly diffused among the masses of mankind during the present century than during any other period of the world's history.

It is by the association of capital, wielded by the associated intellects of the nineteenth century, that

highways of commerce have been opened over the valleys, through the mountains, across the deserts, and on the oceans, over some of which the material productions of the nations are borne by the resistless power of steam, and along others the products of mental action are moved with the speed of electric currents, until both time and space are so far nullified that the most distant nations have become neighbors, and the inhabitants hold daily converse with each other from opposite sides of the globe.

Indeed, it is only by means of such of these highways as have been constructed within the memory of him who addresses you that you have been gathered in this hall from the four quarters of the earth, and through which an account of your doings may be daily transmitted to your most distant homes.

I congratulate you on the fact that the profession you represent has taken the lead of all other professions or classes of men in rendering available these grand material achievements of the age, for cultivating fraternal relations, developing and interchanging knowledge, and planning concerted action for rendering human life everywhere healthier, happier, and of longer duration.

This is the Ninth Grand International Congress in regular series within little more than two decades, and let us hope that all its work will not only be done in harmony and good order, but with such results as will add much to the aggregate of human happiness through all the coming generations

Without trespassing further on your patience, I must ask your forbearance with my own imperfect qualifications and your generous assistance in the discharge of the responsible duties you have devolved upon me.

EX-GOVERNOR BLACKBURN DEAD.	Luke P. Blackburn, M. D., Physician, Philanthropist, and Statesman, the most able and humane Governor Kentucky ever had, the founder of the United States Ma- rine Hospital system of providing for the treatment of afflicted indigent navigators of the rivers and lakes of this country, the courageous and benevolent physician, who always gave his services freely to his fellow man in the time of pestilence, is dead. He was born in Woodford County, Ky., 1816, and died at Frankfort on the 14th of Septem- ber, 1887.
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PROGRESS

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DUDLEY S. REYNOLDS, A. M., M. D., EDITOR.

D. W. RAYMOND, BUSINESS MANAGER.

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THE INTERNATIONAL MEDICAL CONGRESS.

The Ninth International Medical Congress which met at Washington, September 5th to the 10th in-

clusive, was indeed a representative assembly of the best talent in the medical profession of the civilized world. The seventh Congress met at London, August, 1881. There were at that time about thirty-one hundred registered members. The character of the work done was admitted to be very superior to that ordinarily done at medical conventions. At Washington the number in attendance was even greater, and and the character of the work done of the greatest possible importance. True, a few persons whose names are familiar to the readers of medical literature in this country and in Europe did not appear as participants in the work of the Ninth Congress, but it is hardly to be expected any one set of men could be present as a necessary constituent at more than one Congress. That some who were conspicuous at the Congress of 1881 or 1884 should be absent from the Congress of 1887, is quite natural; and, it may be noted in this connection, that the *New York Medical Record*, whose editor-in-chief was, all along, aspiring to the leadership of the opposition to the Congress, and that now one of the best reports of the busi-

ness done is to be found in the *New York Medical Record* of September 10. In an editorial on page 363 of the current volume appears the following: "It has already been recorded that the Medical Congress at London was the most scientific; that at Copenhagen, the most hospitable; and it will now go down in history that the Washington Congress was the biggest of all that have been held."

When it is remembered that London has a population of about four millions, and is situated near the center of the most densely populated part of the earth, shall we not feel a pardonable degree of pride in the reference above made? Does it not present a creditable showing for the medical profession of America that many hundreds of them traveled a thousand miles or more to exhibit their interest in the legitimate work of the profession by attending the Congress? In fact, is it not creditable in the highest degree to the professional character that in so new a country as this, at the Capital, with less than three hundred thousand people, a larger body of the representative men of the profession assembled than could be got together at the great English Capital which boasts of its four millions?

The daily issues of the great Philadelphia weekly, the *Medical Register*, afforded convincing evidence alike of the importance of the Congress and the enterprise of American journalism.

MUNICIPAL SANITATION.

L'Union Medicale is a practical critic of sanitary publications emanating from municipal bodies. Recently at the public health conference in Louisville it became apparent the first hour of the meeting that the municipal authorities of Louisville were morbidly sensitive to criticism, and during the course of the conference it transpired that the Council feels in some degree responsible for the conditions which have led to the contamination of the

sources of supply for the public wells. The Municipal Council of Paris is evidently made up of material strikingly similar to that which forms our own municipal legislative assembly. Its proposition for the more perfect drainage of Paris and the purification of the waters of the Seine are so remarkable that we can not forbear to make some of them public. For example, as an earnest of the efforts to purify the waters of the Seine, it is announced that during the year 1886 there were taken from this river, at Paris, 2,021 dogs, 9,077 cats, 2,257 rats, 507 ducks, 210 hares, 10 sheep, 2 colts, 66 sucking pigs, 5 shoats, 27 geese, 27 turkeys, 2 calves, 2 monkeys, 8 goats, 1 snake, 2 squirrels, 3 porcupines, 1 parrot, 609 birds of various kinds, 5 foxes, 130 pigeons, 3 hedgehogs, 3 peacocks, and 1 seal, besides 3,066 kilogrammes of offal.

Our contemporary politely suggests that the municipal authorities are entirely wrong in imputing any suspicion of impurities to these rich waters, which, upon careful analysis, turn out to contain not only no deleterious material, but all the essential elements of a *nourishing soup*, made up of the most varied and choice ingredients. He thinks the waters of the Seine represents, in fact, a most excellent form of *extract of meat*; and, instead of supplying this river water to the poor of the city, it is suggested that, as an especial favor to the wealthy classes, this rich nitrogenous fluid should be distributed during the summer and fall seasons of the year. As our own pump water in Louisville is shown by Maj. Davis to come from a subteranean basin underlying the city, and into which forty thousand vaults are constantly pouring human excrement, it can not be long before we shall be in a position to compare statistics with the city of Paris in this respect. Meantime, we may suggest to our confrere *l'Union Medicale* that his wit shall not fail to bear abundant fruit. The *reductio ad absurdum* is necessary in any attempt to impress the mind of the average politician.

WM. C. WILE,

A. M., M. D.

On the 1st of September Wm. C. Wile, A. M., M. D., was

married to Miss Hattie A. Loomis, at New Haven, Conn. Dr. Louis S. McMurtry, of Danville, Ky., was the groom's best man, while Miss C. E. Driggs, of Asbury Park, N. J., was chief bridesmaid. Dr. Robert T. Morris, of New York; Dr. and Mrs. I. N. Quimby, of New Jersey; Dr. and Mrs. Dudley S. Reynolds, of Louisville; Dr. and Mrs. J. M. Mathews, of Louisville; Dr. and Mrs. I. N. Love, of St. Louis, besides a large delegation from other parts of the country, had the good fortune to be present at the wedding. The reception at the bride's home was in every way suited to the dignity and the importance of the occasion. After the reception, the entire party took passage on one of the magnificent Sound steamers for New York. The weather was perfect, and every thing seemed to favor the happy excursionists. The party proceeded to Washington, and there Wile, with his characteristic energy, undertook the hurculean task of managing the daily issues of the *Medical Register*, besides attending the sections of the Congress and the regular nocturnal festivities at Washington. At the close of the Congress Dr. and Mrs. Wile proceeded to Danbury, Conn., their future home.

J. H. LARRABEE,

M. D.

On the 14th of September John H. Larrabee, M. D., Demonstrator of Anatomy in the Hospital College of Medicine, was married to Miss Susan Lovell, daughter of the late General Lovell, of the United States army. After an elegant reception at the home of Prof. John A. Larrabee, father of the groom, the bridal party took a midnight train for the East. They are expected to return in about six weeks, and undertake jointly those intricate schemes which are necessary to supply anatomical material to the students of the Hospital College. Young Larrabee is abundantly endowed with talents of a high order.

Industrious and enthusiastic in the pursuit of his profession, he bids fair to adorn it and the social circle in which he moves.

AN INTER-
NATIONAL
BANQUET.

The banquet tendered by the Association of American Medical Editors to the

foreign members of the journalistic profession at Washington, on the evening of September 5th, was one of the most brilliant affairs of the kind which has ever been given in this country. The decorations of the hall were unique and magnificent beyond description. To the refined and cultivated taste of Mr. J. W. Lambert of St. Louis, the Association is indebted for the splendor of the decorations, the design of the beautiful badges, and for invaluable assistance in many ways. The colossal pen, suspended from the ceiling, was a sublime picture of elegance. It was indeed a fit emblem of the potent influences of journalism in the education of the medical profession. Dr. Wm. C. Wile, Chairman of the Committee of Arrangements and Secretary of our National Association, presided at the banquet with rare grace and ability, while our President, William Porter, M. D., of St. Louis, in his address, which was scholarly and full of vitality, showed himself in every way fit to preside over the destinies of the great profession of journalism in the United States. Nearly every civilized country of the earth was represented in the list of respondents to the toasts during the evening. The menu was all that the occasion required, and it may fairly be said Colonel Spofford, of the Riggs House, outdid himself. Prof. Landolt, of Paris, and Sir Jas. Grant, of Montreal, were the happiest of the foreign speakers, while the sparkling wit and magnetic eloquence of Dr. I. N. Love, of St. Louis, brought forth the most rapturous and enthusiastic applause. There can be little doubt that medical journalism is—at least in the minds of those who were present on this auspicious occasion—elevated by the union

of so much genius and good cheer. It may be the editorial pen has not been sharpened, but it must move in more graceful lines and dignified curves when writing about members of the guild.

THE PRESIDENT
AND MRS.
CLEVELAND.

A conspicuous feature of the International Medical Congress was the constant

and increasing interest manifested by the President of the United States. He not only performed the ceremony of opening the Congress in a dignified and business-like manner, but he was an interested spectator of the subsequent proceedings throughout the entire session of the first day. He and Mrs. Cleveland were announced to receive members of the Congress and their families at the White House from 7 to 8 o'clock P. M. on Tuesday, the 6th of September. Promptly at the hour named the great halls of the presidential mansion were thrown open, and the surging throng of guests began to file in. They were introduced, each one, to the President and Mrs. Cleveland separately. They both shook hands with about six thousand persons, more than four thousand of whom were members of the Congress and their families. This ceremony was continuously conducted from 7 till 10:30 P. M. The Hon. J. G. Carlisle, Speaker of the United States House of Representatives, added dignity and grace to the occasion, while Mrs. Carlisle and Mrs. Folsom, mother of Mrs. Cleveland, took advantage of the opportunity to pay especial recognition to many personal friends among the guests.

By special invitation the following party paid a visit to Oak View, the summer home of the President and Mrs. Cleveland, where a delightful hour was spent on Wednesday morning, September 7th: Dr. and Mrs. J. M. Mathews, of Louisville; Dr. and Mrs. William Porter, of St. Louis; Dr. W. H. Wathen; Dr. and Mrs. Dudley S. Reynolds.

PUBLISHER'S DEPARTMENT.

In this portion of the Magazine will be found notes of many things of interest to the student and practitioner. PROGRESS will print advertisements of reputable houses only, and articles of merit; it will therefore be a courtesy and favor to us for our friends who may be influenced to inquiry, correspondence, or trial, as a result of an advertiser's announcement in PROGRESS, to make mention of the fact, and so give the best of evidence as to the value of our pages to those who favor us with their business.

A NOVEL DEPARTURE IN ADVERTISING.

—Believing that the advertising of medical preparations often fails of its purpose, viz: to clearly and intelligently present to physicians their special advantages, pharmacal or therapeutic, on account of the fragmentary and imperfect manner in which the facts are usually conveyed in such advertisements, Parke, Davis & Co. propose to inaugurate rather a novel departure in advertising. It is their intention to publish in the advertising pages they occupy in medical journals a series of what they term plain talks to physicians, in each issue taking up a certain class of preparations and pointing out the reasons why they deserve to be prescribed, until all their preparations shall have thus been presented. The excellence of the products of this house are well known, and it is to be presumed that their long experience in the manufacture of medicines will enable them to say in these informal talks something of real interest and benefit to their medical friends.

SUCCUS ALTERANS IN RHEUMATISM AND SYPHILIS.—We are reliably informed that the preparation Succus Alterans (McDade) is becoming a very popular remedy with the profession, and being very extensively prescribed in general practice as an alterative tonic, aside from its use in syphilitic diseases. The good results from its use in treatment of rheumatism, of chronic character especially, is worthy of consideration. The remedy is certainly growing in favor, and as no great claims have ever been made for it, but simply placed upon its own merit, we think it could possess no higher recommendation.—*Indiana Medical Journal*.

A RELIABLE LIQUID PEPSIN.—Have used LILLY'S LIQUID PEPSIN for the last ten years with remarkable success, and do highly recommend it to the profession.

THOMPkins E. TAGGART, M. D.,
(Fairmount.) Cincinnati, Ohio.

ANTISEPTIC COLOGNE, PREPARED BY PARKE, DAVIS & CO., DETROIT, MICHIGAN, A MOST AGREEABLE AND FRAGRANT DISINFECTANT AND DEODORIZER.

LISTERINE is a well-proven antiseptic agent—an antizymotic—especially adapted to internal use, and to make and maintain surgical cleanliness—asepsis—in the treatment of all parts of the human body, whether by spray, irrigation, atomization, or simple local application, and therefore characterized by its particular adaptability to the field of PREVENTIVE MEDICINE—INDIVIDUAL PROPHYLAXIS.

EXTRACTUM PANCREATIS.—Rich in Diastase and in Trypsin. A pure, dry product from the Pancreas, much used in the Artificial Digestion of Foods for the Sick, in making Peptonised milk, beef, etc., as a remedy *per se* in Intestinal Indigestion. It exerts marvelous activity upon Starch and Caseine. "This is a wonderful preparation, and I have used it so frequently and in so many Surgical and Medical Diseases that I can not but recommend it in this place." From article on Ovarian Tumors and Ovariectomy, by Dr. Wm. Tod Helmuth, in "*Homœopathic Journal of Obstetrics*," May, 1885, page 519. FAIRCHILD, BROS. & FOSTER, makers of the Pure Digestive Ferments and Kindred Preparations, 82 and 84 Fulton Street, New York.

INEBRIETY.—I used celerina in the case of a gentleman who had long been addicted to the excessive use of whisky, and who desired to abandon the use of it. When called to see him he was bordering on delirium tremens. After giving him a dose of calomel I put him on the celerina, two teaspoonfuls every four or five hours, allowing him three small drinks of whisky in the twenty-four hours for three days. I then discontinued the whisky, and gave thirty drops tinct. capsicum three or four times a day. Continued the celerina until two bottles were taken, at which time he was quite restored. Some three months have passed and he tells me he has no desire for whisky. I am convinced that any one who desires to quit whisky can do so by the use of celerina with comparatively little discomfort or inconvenience.—L. P. Bailey, M. D., Randolph, Va.

PROGRESS

A Monthly Magazine for Students and Practitioners of Medicine.

"I HOLD EVERY MAN A DEBTOR TO HIS PROFESSION; FROM THE WHICH AS MEN OF COURSE DO SEEK TO RECEIVE COUN-
TENANCE AND PROFIT, SO OUGHT THEY OF DUTY TO ENDEAVOUR THEMSELVES, BY WAY OF AMENDS, TO BE A HELP AND
ORNAMENT THEREUNTO. THIS IS PERFORMED, IN SOME DEGREE, BY THE HONEST AND LIBERAL PRACTICE OF A PROFES-
SION; WHEN MEN SHALL CARRY A RESPECT NOT TO DESCEND INTO ANY COURSE THAT IS CORRUPT AND UNWORTHY THEREOF,
AND PRESERVE THEMSELVES FREE FROM THE ABUSES WHEREWITH THE SAME PROFESSION IS NOTED TO BE INFECTED; BUT
SUCH MORE IS THIS PERFORMED, IF A MAN BE ABLE TO VISIT AND STRENGTHEN THE ROOTS AND FOUNDATION OF THE
SCIENCE ITSELF; THEREBY NOT ONLY GRACING IT IN REPUTATION AND DIGNITY, BUT ALSO AMPLIFYING IT IN PROFESSION
AND SUBSTANCE."—BACON.

VOL. II.

LOUISVILLE, KY., OCTOBER, 1887.

No. 4.

GENERAL MEDICINE.

SECTION OF
GENERAL
MEDICINE.
NINTH INTERNA-
TIONAL MEDICAL
CONGRESS.
WASHINGTON, D. C., SEPT.
5TH TO 10TH.

PRESIDENT—A. B.
Arnold, M. D., Balti-
more.

SECRETARIES—Wil-
liam F. Waugh, M.
D., Philadelphia; J.
W. Chambers, M. D.,
Baltimore.

This section met at the Congregational Church at 3 P. M. The session was opened by the President of the section, Prof. A. B. Arnold, of Baltimore. His subject was "The Practice of Medicine at the Present Day." After casting a retrospective glance at the movements which exert a dominant influence on medical practice of the present, he spoke of the high degree of precision which medical diagnosis has attained, and the invaluable results of pharmacological experiment. Every discovery in pathology helped to unsettle the practitioner's therapeutic faith.

The work of Morgagni in morbid anatomy created therapeutic nihilism. The spirit of science must cause fluctuations in practice, but medical art enables the physician to cope successfully with disease through all these changes.

If there be one class of diseases where unanimity might be expected, it is in the self-limiting diseases. Yet there are many diverse methods. Still, the mortality has diminished steadily.

The antipyretics cause a depression which
Vol. II, No. 4—12.

can not be seen with indifference. Stronger proof than we possess is required to establish the reputation of these agents. Hyperpyrexia does not constitute the disease. The best remedy yet introduced is cold water when properly applied. Inconsiderate medication is principally due to the false conception of what constitutes expectant medicine. The old physicians taught hygienic management, which we can not afford to neglect to-day. Faithful and skillful nursing is absolutely remedial.

The remarkable improvement which is manifested even in fatal diseases, in consequence of a change in regimen, diet, and general mode of living is calculated to make a deep impression on the medical observer.

The reduced death-rate shown by vital statistics is largely due to improved sanitation enjoyed by the poorer classes. The decrease in the morbidity of factory hands in England is mainly due to the constant agitation of the medical press for legal regulations. Therapy still lags behind pathology. Chirurgical art has wrested many an inch of ground from medicine. To the surgeon the specialist owes his triumphs. Still symptomatic treatment is not valueless. Structural changes may undoubtedly be modified by remedies exerting a specific influence on the functional activities of organs. Pathological theories must control practice.

There is a surfeit of facts in medicine and a dearth of good working theories. That nature cures disease is an insipid truism. If we only knew *how* nature cures disease!

An acquaintance with her methods would offer the chance to supplement them when deficient or to evoke them when not forthcoming.

Granting the objections urged against the numerical method in comparing therapeutic results, it still remains the only way of judging the mortality under different plans of treatment. Medicine will never attain that degree of perfection which would enable it to formulate a rigid system of procedure.

Dr. Arnold closed with a brief and pointed reference to the difficulties under which the modern practitioner labors.

This address, replete with suggestive points, and written in a polished style which it is impossible to transcribe into an abstract, was delivered with a warmth and eloquence which won the general approbation of the large audience.

After its conclusion, Dr. Hay, of Philadelphia, moved that the address be referred to a special committee for publication, which was unanimously adopted.

The next paper was entitled "Some Suggestions upon the Pathogenesis of Yellow Fever," by Dr. Ignacio Alvarado, a delegate sent by the Mexican government. He attributes this disease to a microbe, and believes that the symptoms are due to the disengagement of acid phosphates of soda, converted from basic phosphate, or of phosphoglycerine acid, set free from lecythin by the reactions produced by the microbe drawing its sustenance from the blood. He drew a parallel between the symptoms and the morbid anatomy of yellow fever and those of poisoning by the above agents artificially produced by injecting them into the blood of animals.

While Dr. Alvarado was delivering his address he was interrupted by Dr. Didama, of Syracuse, N. Y., who suggested that Dr. A's. paper belonged to another section, and was being delivered here by mistake. On investigation it was found that Dr. D. supposed he was listening to a paper on the etiology and prophylaxis of yellow fever, by

Dr. Carmona, of Mexico. This being settled, Dr. Alvarado resumed his reading.

Dr. Alvarado's imperfect command of our language prevented his very meritorious paper receiving the attention it deserved. Had there been a few navy surgeons present, an interesting discussion would have been elicited.

The third paper was upon pneumonia as met with in various parts of Canada, by Prof. Walter B. Geikie, Dean of Trinity Medical College, Toronto. Dr. Geikie took pains to collect information concerning the prevalence of pneumonia from physicians in all parts of the Dominion of Canada. In British Columbia it is mainly met with in connection with typhoid fever, primary cases occurring less frequently.

In Alberta and Assiniboine, pneumonia is rare, possibly because the population is scanty. It is never epidemic there, and is purely primary. In all the above regions malaria is non-existent. He attributes the occurrence of the low forms in towns to the defective sanitary regulations incidental to new and poor communities, especially since these forms decrease as hygienic reforms are instituted. Passing into the thickly settled sections of Southern Ontario, malaria is found co-existing with pneumonia, modifying its type and course considerably.

During the past winter and spring pneumonia of a low and fatal type has been very prevalent in Toronto, attacking the strong and young, as well as the weakly and aged. The latter class sank in a very few days in spite of every effort to sustain them. In some instances the disease appeared to be contagious.

As is usual in an assemblage of practical physicians, this paper on pneumonia elicited an animated discussion.

Professor Ouchterlony, of Louisville, spoke of the uncertainty in which many of the profession are found, owing to the rude attacks on the old pathology, by theories which have not as yet firmly established their own position.

Professor Scott, of Cleveland, followed in the same strain.

Dr. Didama, of Syracuse, moved that the paper be referred to the Committee on Publication. This was decided to be unnecessary, as all papers read at the Congress will be submitted to the committee.

Dr. Didama called attention to the fact that inoculations of animals with the pneumococcus had given rise to pneumonia, thus proving the dependence of this disease upon the micro-organism.

Dr. Leister, of Missouri, claimed that pneumonia is a simple inflammation, modified by other diseases, notably malaria.

Dr. Ouchterlony spoke of the firm faith the older physicians had in venesection, and yet the statistics of modern supporting treatment gave results no way inferior, even much better than theirs.

Professor Waugh, of Philadelphia, remarked that Professor Geikie's valuable paper contributed a species of information of which medical literature contained far too little. But he has not contributed to the clearing up of the uncertainty in regard to the etiology of this disease. He has dealt a heavy blow against the theory which attributes pneumonia to exposing to cold and wet by showing that in these high latitudes the disease is not specially frequent. But he has inflicted a far more powerful blow upon the microbial theory by showing that in these immense solitudes, with a sparse and widely-scattered population, the disease hardly occurs at all. Such communication as would permit contagion to occur is here out of the question. We must either admit that other causes produce pneumonia or assume a universal prevalence of the pneumococcus, even in immense uninhabited regions. Dr. Theo. H. Boysen, of Egg Harbor, N. J., stated that pneumonia is scarcely known in that vicinity.

Dr. J. Stewart, of Montreal, asked if pneumonia is more frequent or more fatal in malarial districts.

Professor Geikie replied that he found the

disease is not more frequent, but more fatal.

The section then adjourned until Tuesday, 11 A. M.

AFTERNOON SESSION.

TUESDAY, SEPT. 6.

The first paper presented was by Dr. Joseph Korosi, of Buda-Pesth, on "The Preventive Power of Vaccination."

Dr. Korosi gave a resumé of his observations conducted for a period of some years. Of 11,842 persons dying of various diseases 1,839, were not vaccinated. Of 1,293 dying of small-pox, 1,054 were not vaccinated. The death rate of vaccinated persons was shown to be four per cent less than that of the unvaccinated.

Dr. Whitmarsh asked what virus was used by Korosi; who stated that both human and bovine were used. Dr. Whitmarsh then asked how many children died from the results of vaccination. The answer was, not one.

Dr. Whitmarsh asked how many times syphilis was transmitted by vaccination. Dr. Korosi answered none in his experience, though cases had occurred in the practice of others.

Professor Korosi closed the discussion by referring to the book of Prof. Köller in antagonism of vaccination, and stated that he had obtained from nine of the physicians who furnished Köller his data copies of their original reports. An examination of these papers showed that Köller had deliberately falsified these reports.

The next paper was read by Dr. W. M. Whitmarsh, of England, on "Vaccination and Pasteur's Treatment."

Dr. Whitmarsh brought forward the stock arguments of the anti-vaccinationists. He then took up Pasteur's treatment. He described the method employed by the celebrated French scientist and exhibited the instruments used by him in trephining rabbits' skulls and inoculating them with the virus of rabies. He illustrated by diagrams on the blackboard Pasteur's simple, inten-

sive and present methods of inoculating patients bitten by rabid animals. No care is taken as to the diet or medical treatment of persons undergoing the method. Immediately after the receiving injections of rabid virus men have been seen in Parisian cafés drinking absinthe.

The speaker vigorously opposed Pasteur's claims, throwing doubt on his statistics in every part. Until some better results are shown, people should hesitate before subjecting themselves to the real dangers of this treatment, especially where the animal which injures the patient is not certainly known to be rabid.

Neither did Dr. Whitmarsh regard as conclusive the evidence submitted by M. Victor Horsley, which satisfied Sir James Paget, T. Lander Brunton, Richard Quain, and other well-known members of the English commission. He then reviewed Pasteur's later operations and gave reasons for doubting their efficacy.

Dr. C. A. Leale deprecated the effect of alarming persons who have been bitten by dogs. He advised that such persons should not be confided to Pasteur's method for the present.

Dr. U. M. Welch declared himself to be of those who believe in the power of vaccination to absolutely prevent small-pox. He recalled the experiments of Waterhouse a century since. He then gave the results of many years' experience as head of the small-pox hospital of Philadelphia. When new employes entered the hospital, unless they had been recently and efficiently vaccinated, he performed that operation. In not one case did such persons suffer from small-pox. He preferred the humanized virus, especially if long transmitted, on account of its rapidity and certainty of action.

As to the durability, few if any cases were ever admitted to the hospital of persons vaccinated before the fifth birthday. None such ever died of small-pox. Among those vaccinated after the fifth year, post-vaccinal small-pox is more frequent.

The danger from syphilis is so small that it can not be compared with the benefit resulting from vaccination. Erysipelas occurs only from gross carelessness.

MORNING SESSION,
WEDNESDAY,
SEPTEMBER 7.

A paper entitled "The Natural History of Disease," by John A. Ouchterlony. He spoke of the all-pervading presence of law, by which the succession of morbid phenomena is regulated. In obedience to law, the disease process completes its evolution and ends in recovery or death. The physician seldom shows much disposition to trust nature. He wants to interfere actively. Yet nature possesses far greater powers in curing disease than is generally admitted. The wide difference in the treatment of affections, under which the rate of mortality is yet the same, proves the little influence of the treatment. Dr. Cronin thought nature needed the assistance of art to allow this to be accomplished. He illustrated nature's work as assisted by the surgeon in placing a splint on a broken leg. His remarks were received with applause.

Dr. Heminway said he drew from Dr. O.'s paper the conclusion that our work is not as physicists but as teachers. He realized this and fully agreed that we often mistake in following the popular demand "to do something." He believed in using placebos and watching closely the natural history of disease, including the cause, course, and termination.

Dr. Scott considered our therapeutics at the present day worth one hundred times that of the time when he entered the profession. The man who keeps abreast of the times in therapeutics is a good physician. We can enforce physiological rest by the use of drugs. He had faith in medicine. [Applause.]

The President said Dr. O. took a broad and philosophical view of the medical art.

One form of diabetes is curable by abstention from sugar. In another the disease is not so easily controlled.

Dr. Bently said that the result of this doctrine is to weaken medical faith. As nearly 95 per cent of cases are medical, this is one reason for the paucity of attendance in this section.

Therapeutics is the object and end of medicine. Disease does not tend to recovery. It always means death. What could we do in malaria without quinine? In syphilis without mercury?

Dr. Bell did not understand the paper as advising the throwing aside of medicine, but their disuse in self-limiting diseases when not needed. Too much medicine is used to-day.

Dr. Green thought we were running to the extreme of incredulity as to the curative value of medicine. One man said hematuria is due to mercury. Another said it was entirely due to quinine, and that he gave mercury to cure it. If he gave nothing in apoplexy his patients would employ a physician who would do something. The old treatment of rheumatism was Dover's powders and six weeks; it is now salicylates and six days.

Dr. Hay made a few appropriate remarks, and then Dr. Ouchterlony closed the debate.

Dr. F. W. Pavy, of London, spoke in accord with Dr. Ouchterlony. He studied the natural history of the disease and of the means of cutting disease short in order that our own natural history may have a chance to develop to its full extent. We must treat both mind and body. Much distress is often due to solely mental influences. [Great Applause.]

The next paper presented was entitled "Disease of Inebriety and its Treatment," by T. D. Crothers.

He said that inebriety was recognized as a disease long before insanity was thought to be other than spiritual madness. Among the causes of inebriety he enumerated heredity, shock, mental and physical, structural and functional affections of the brain, disturbances of nutrition, and nerve irrita-

tions. Sometimes there is an unstable condition of the brain. Some diseases have inebriety as a sequel. The craving for alcohol is not the disease, but a symptom resulting from one of the many diverse conditions. From certain evidence it appears that inebriety is increasing in America.

Dr. Crothers denounced the theory that inebriety is a crime to be cured by punishment. Instead of sending him to jail, the inebriate should be quarantined and treated intelligently. Inebriate hospitals should be of three kinds—the first for chronic incurables, the second for recent cases, and the third for private and wealthier patients.

Dr. Cutter said he knew of a cure resulting from four weeks' residence in a benevolent Christian institution. The treatment consisted in the total removal of alcohol and placing the Bible in the hands of the inebriate, who is adjured to put away his appetite for drink and believe in God and he will be cured.

Dr. J. W. C. O'Neal differed with Dr. Crothers. He believed rather in confinement.

Dr. Fair gave the details of a case cured by joining the church.

Dr. Stubbs quoted the saying of an Eastern author, that to treat some cases we must begin 200 years before the birth of the patient. He paid a well deserved tribute to those who endeavor to instil moral sentiments into the minds of those who have a tendency to inebriety.

Dr. John Cutter spoke in the same strain.

Dr. Waugh said that he was disposed to put a great deal of confidence in the method proposed by Dr. Cutter on grounds other than religious. When we seek to change the moral status of the patient we rise to the highest regions of the medical art, where the Great Physician has too few followers. The necessity for the consideration of such influences led him to object to the present inebriate hospitals. Too frequently their effect on the mental state of the patient is disastrous; the result of a

years' pampered idleness being to convince them that their friends must continue the same course through life or be responsible for their relapses. Such patients should be compelled to earn their bread by their labor while in the hospital. But the physical part of the treatment must be omitted. A careful study of some cases showed alcholia to precede the outbreak in one, phosphaturia in another. Treatment of these symptoms prevented the outbreak of inebriety.

Dr. Cronin stated that thirty years ago he drew attention to the alcoholic condition of the stools. In Italy these cases are placed in asylums, and all they eat or drink is flavored with wine until the loathing becomes unbearable. The cures are very permanent. Closing the discussion, Dr. Crothers said these cases are as much insane as the wildest lunatic. He acknowledged the benefits of religious influence, but pointed out the tendency of inebriates to be easily "converted" as a feature of their disease.

MORNING SESSION,

THURSDAY, SEPT. 8.

The morning session was opened by Dr. Ephriam Cutter, of New York, with a paper on the "Morphology of Rheumatic Blood."

The room was darkened, and the lecture illustrated by the use of a stereopticon.

Dr. Cutter finds a remarkable degree of adhesiveness of the blood, and attributes to this the increased force of cardiac action, with consequent exhaustion and inflammation.

The section was then favored with an address in French by the celebrated Professor Semmola, of Naples, upon the pathogenesis of albuminuria. He gave the results of some new researches, experimental and clinical, pursued at the university at Naples.

Dr. Nunn spoke favorably of a diet of albumen in large amounts.

Sir James Grant, of Montreal, mentioned the fact of Cheyne-Stokes respiration being usually connected with albuminuria. He spoke of a fact recently observed by him of

this respiratory phenomenon occurring in nephrolithiasis without albuminuria.

Dr. Cutter does not regard the diagnosis of Bright's disease as perfect unless there are albuminuria, fatty epithelium and casts.

Dr. R. Singleton Smith presented the next paper, entitled "Some Points on the Treatment of Phthisis."

His experience with Bergeon's method showed the rectal injections to be valueless.

The evidence in favor of iodoform steadily increases, and with its newer substitute, iodol, grows overwhelming.

He gives iodoform, or iodol, by the mouth and by intrapulmonary injection, six per cent in vaseline oil. Thirty grains a day is the outside limit by the mouth; but one grain by intrapulmonary injection has more beneficial effect. Eucalyptol has not proved of value. He prefers iodoform to iodol.

If iodoform, terebene, and creosote fail when given internally, the injections should be used.

The President complimented Dr. Smith on his paper.

Dr. Truax has cultivated the bacillus tuberculosis in iodoform solution; hence he has little faith in that substance as a germicide.

Dr. Arnold spoke favorably of Semple's inhaler.

AFTERNOON SESSION.

The afternoon session was opened by Dr. Pavy with an address on "Diabetes." The largest assemblage yet seen in the First Section gathered to hear this celebrated English physician. He said:

In diabetes there is an inability to dispose of the carbo-hydrates ingested, and these principles escape into the circulation and appear in the urine. The amount of sugar in the urine indicates the amount in the blood.

The fault appears in the portal blood.

The injection of defibrinated blood into this vein is followed by glycosuria. So, also, is the super-oxygenation of the blood.

Induce vaso-motor paralysis, allowing too

free flow of blood in the chylo-poietic viscera from dilated arteries, and we have glycosuria. The worst forms of diabetes are those where the mouth is intensely red. In Bernard's experiments we probably have vaso-motor paralysis resulting from the puncture in the floor of the fourth ventricle. The different results obtained in applying tests arise from the varying diet immediately before the application of the tests. The best test is the copper. Pellets are made of sulphate of copper, Rochelle salts, and potash stamped together so that the copper does not touch the potash. (The lecturer illustrated this test before the Section.)

Dr. Pavy tests both the night and the morning urine, to avoid mistakes from the diet. He gave some curious instances in which peculiarities of diet and cookery were detected by these tests. The method of making a quantitative estimate of the sugar present by discolorizing the ammoniated Fehling's test-solution was then demonstrated. For detecting albumen, he uses pellets of citric acid and of sodium ferrocyanide. If the citric acid brings down a precipitate of uric acid, the latter disappears when the urine is diluted. An early diagnostic sign is the occurrence of white spots on the clothing from saccharine urine. Other early symptoms are so-called rheumatic pains and ataxoid gait, hyperesthesia, and pains on retiring to bed. In young subjects sugar is at once forbidden. Temporary relief follows, but finally death takes place from diabetic coma. In older cases the prognosis is more favorable. The diet should consist of any meat, butter, cheese, but little milk, and almond bread.

He gives his patients opium or codeine for three to six months. He then allows two ounces of bread, adding an ounce every two months if the urine remain free. When six ounces daily are reached this is continued a long time.

Dr. Pavy held the attention of the large audience throughout, and closed amid prolonged applause.

Dr. Ouchterlony moved the thanks of the Section, which was voted unanimously, and Dr. Pavy was requested to furnish a copy of his address for publication.

Drs. Herrick, Arnold, Truax, Miller and Holton addressed questions to the lecturer, which were answered.

Dr. Stockman read a paper by Phillips, of Edinburgh, on the "Etiology of Phthisis."

Dr. Herrick doubted the dependence of tubercle on the bacillus.

Dr. Whitmarsh considers the contagious nature of tuberculosis as established. The early stage is curable, but too often overlooked.

Dr. Arnold believes that Koch has the best of the argument, as bacilli sputa cause tubercular diseases, and non-bacilli sputa never do so when injected.

The Secretary read a paper by Dr. W. B. Neftel, entitled "Some Considerations on the Pathogenesis of Diseases of Women."

Experiments were detailed in which compression of the chest in animals caused arterial anemia, venous stasis, and death, but not tuberculosis.

Discussed by Herrick, Price, Mrs. Dr. Findley, Whitmarsh, and Ege.

<p>MORNING SESSION, FRIDAY, SEPT. 9.</p>	<p>The morning session opened with a paper by Professor George Eastman Stubbs on "The Rational Treatment of Diseases of the Respiratory Apparatus." The speaker gave a short résumé of the anatomy of the lungs, and on this based his suggestions as to topical and general treatment, support, and counter-irritation. He spoke specially of copaiba, used with an atomizer; also phenol and iodine.</p>
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Dr. Pattee spoke of the value of hydronaphthol dissolved in vaseline oil in phthisis.

Dr. Waugh referred to the claims of French observers that American petroleum oil can not be used hypodermically, and stated that he had used it repeatedly, and found it devoid of irritating qualities. The

method has some promise of value, as very large amounts of the remedy may be introduced when vasline oil is the excipient.

Dr. Hay spoke of the value of iodine externally, using it in 12½ per cent solution. He believed that he had in some cases put an end to the morbid process. He doses his patient heavily with whisky. He has used this method for years with no reason for regret. Patients so treated have a fair appetite, good night's rest, fair strength, and comparative comfort for from five to twenty years.

Sir James Grant gave an address upon "Diphtheria." He begins the treatment with a mustard bath, applies tincture of iron and glycerine, one part to three, to the throat, and gives mild diaphoretics internally. The cases pursue a mild course, and in a few days the false membrane drops off. Out of sixty-five cases, he had but two deaths.

In Canada a mild winter with little snow is apt to be followed by an unusual amount of diphtheria.

He called attention to the danger of allowing patients to exert themselves during convalescence. Careful isolation should be enforced.

Inland places are preferable to the seashore in convalescence.

Dr. Hay moved that the thanks of the section be tendered to Sir James for his valuable address.

Carried unanimously.

Dr. Ouchterlony made a few remarks on the subject.

Dr. Palmer spoke approvingly of the address, and recommended pilocarpine.

Closing the discussion, Sir James thought pilocarpine would prove useful, if not too depressing.

AFTERNOON SESSION.

Dr. Ouchterlony read the report of the committee on Korosi's statements concerning Köller's anti-vaccination book. The report fully substantiated Korosi's statements, and stated in conclusion that "the statis-

tics of Dr. Köller have been found by us to be false; that these statistics are an unpardonable effort to mislead public and scientific opinion, and that henceforth no weight should be attached to them, having been proved by us to be entirely incorrect. Signed by the committee: John A. Ouchterlony, M. D., Professor of Practice and Clinical Medicine, University of Kentucky; Thomas B. Lester, M. D., Professor of Practice, Kansas City Medical College; and A. B. Arnold, M. D., President of Section of General Medicine."

Dr. Hay moved that the report be accepted and the thanks of the section tendered to the committee. Carried.

Dr. Lester took the chair while the President, Dr. A. B. Arnold, delivered an address upon the treatment of dilated and fatty heart. He showed the sphygmographic tracings on the blackboard, gave a brief exposition of the pathology of this condition, and ended by recommending the use of digitalis and strychnia, the latter in large doses. Digitalis is a dangerous drug in aortic regurgitation. Such patients die of heart paralysis with over-distention. No such danger is experienced with strychnia, which is the remedy in aortic regurgitation. He approved of exercise in these cases to improve the nutrition of the organ. The exercise must be carefully regulated by the physician.

Dr. Hay moved the President be requested to furnish a copy of his remarks for publication in the proceedings of the Section. Carried.

Dr. Ouchterlony gave a lucid exposition of the mechanism of fatty degeneration.

Dr. Scott spoke on the same subject.

Dr. Lynch cautioned against such exercise as hill-climbing for a dilated heart beginning to wear out. Exercise should be combined with a reduction of the use of fluids to a minimum.

Closing the debate, Dr. Arnold called attention to his point that strychnia should be given in larger than the usual doses; in

fact, until the physiological action of the drug is manifested. Opium is useful only by relieving nervous phenomena. He did not believe that exercise is attended with the danger Dr. Lynch mentions. He emphasized his limitation of exercise to judicious limits. The dry diet he had no personal experience with, but approved it on general principles.

Dr. E. E. Fell, of New York, read a paper on "Forced Artificial Respiration in Opium Poisoning; Its Properties and Apparatus Best Adapted to this Use."

The method recommended and used successfully by Dr. Fell consists in opening the trachea and applying the apparatus used in physiological laboratories to resuscitate asphyxiated dogs.

Dr. Brinard objected that the apparatus is not often available, and that the operation of tracheotomy is not devoid of danger. He had kept up respiration by Sylvester's method in one case.

Closing the discussion, Dr. Fell stated Sylvester's method had been used in his case and failed.

Dr. Entriken spoke of success following the use of a simple apparatus.

Professor Ouchterlony presented in brief before the Section yesterday the conditions under which fatty degeneration of the heart takes place.

1. In connection with general fatty degeneration or in certain wasting diseases.
2. In general or local atheromatous degeneration of the arterial system, when the coronary arteries have become obstructed by this morbid process. Here the heart undergoes fatty degeneration as a result of innutrition. This is most commonly met with in the period of bodily decay.
3. In certain cases of aortic regurgitation with great hypertrophy of the heart when endoarteritis has been set up in the ascending cava with the thickening of the walls and irregularities of the surface of the intima. This morbid process extends into the coronary arteries, causing a narrowing

of the lumen of these vessels, or perhaps even an almost complete obstruction of the fatty degeneration occurs just as in the second class. This, under the circumstances, is a conservative effort of nature, though imperfect enough, protecting the individual from the evils which readily enough occur as the result of excessive hypertrophy in aortic regurgitation.

After a few brief remarks by the President the Section adjourned *sine die*.

URETHRAL AND PROSTATIC DISORDERS.

Prof. Henry Orendorf, M. D., of Louisville, read a paper before the last meeting of the Mississippi Valley Medical Association, at Crab Orchard, Ky., entitled "Some Remarks on Urethral Contractions, with Prostatic Disturbances." He gives the following causes of these contractions: 1, Congenital contractions; 2, Contractions from excessive masturbation; 3, Contractions caused by urethritis; 4, Contractions caused by chemical traumatism.

Professor Orendorf operates altogether in these cases by division, and claims that in a short time the organ is restored to a perfectly physiological condition. He considers the other methods of treatment, including electrolysis, as very unsatisfactory. In all of his operations he uses cocaine, and believes it to be a perfect anesthetic and at the same time a good hemostatic. He claims that hemorrhage and pain are no longer factors to be considered when a stricture is to be divided.

THE MEDICAL REGISTER.

Dr. William C. Wile, on taking a new partner to share his domestic joys, has retired from the joint editorship of the *Medical Register*, leaving Prof. Shoemaker to guide the destinies of that powerful weekly. Dr. Wile has returned to New England, and will devote all his journalistic talents to the *New England Medical Monthly*, which is henceforth to be issued from Danbury, Conn.

GENERAL SURGERY.

SECTION OF
GENERAL
SURGERY.
NINTH INTERNATIONAL MEDICAL
CONGRESS.
WASHINGTON, D. C., SEPT.
5TH TO 10TH.

PRESIDENT—W. T. Briggs, M. D.

SECRETARIES—A. H. Wilson, M. D., and D. P. Allen, M. D.

The section convened in the Congrega-

tional Church at 3 P. M.

The President in his opening address extended a most cordial welcome to foreigners, and spoke at length on the advantages of fraternal intercourse. This age, he said, was one of greatest activity in scientific surgery, and never before had such rapid advance been made. He drew strong comparison between the dark days when surgeons feared to enter the peritoneal cavity and the brighter days of the present, in which anti-septic science not only made surgeon's bold and aggressive, but gave patients a corresponding degree of hope.

The section having been formally declared open by the President, Dr. C. I. Parkes, of Chicago, presented a paper entitled "A Contribution to the Study of Gun-Shot Wounds of the Intestines." He said that previous to the year 1885 only six cases had been reported, in which the surgeon deliberately hunted for points of injured intestines, and then worked in a surgical manner. This number of cases was strikingly small considering the great number of cases for operation furnished by the Civil War. In 1884 Dr. Parkes brought the subject of operation in these cases prominently forward, and since that date there have been reported thirty-six cases, with nine recoveries, and in two unreported cases of Dr. Murphy, of Chicago, life was saved.

Reports show that cases have been for the most part unselected cases, but the time is coming when a careful discrimination can be made by the surgeon between suitable and unsuitable cases for operation. Every case, the speaker said, should be published

in detail, no matter whether the patient lived or died, as it was only through such collective testimony that surgeons could do their duty by their patients in the future.

Dr. Parkes spoke at length concerning his observations on the character of wounds as giving an insight into the actual condition of things among hidden organs. The size and shape of the bullet are to be taken into consideration, the distance from which the missile is fired and the character of the weapon must always be considered in forming an estimate as to the extent of injury in any given case.

When there is a wound of entrance and a wound of exit in the same patient, we can usually draw a line between the two openings which will show fairly well what fixed organs have been injured by the bullet, but it is not easy to tell the extent to which intervening portions of intestines have suffered. When a bullet penetrates the diaphragm there is almost no hope for the patient. Concerning collativa manifestations and the value of certain subjective symptoms, the doctor spoke of the evidence of perforation of intestines as given by passage of blood by the stools or in the urine, the appearance of rapidly forming tympanites with absence of live dulness, the absence of abdominal respiration and the degree of shock. Formerly, shock was considered a sign of perforation, but experience had shown that the amount of shock depended so much on the temperature of the patient that the sign was not one of value as showing whether perforation of intestines had occurred or not.

Localized bulging of the abdominal wall usually meant that a blood-vessel was bleeding freely deeply down, and that the track of the bullet did not lead into the abdominal cavity. A long line of tenderness in some one direction under the skin showed that the bullet had followed that direction. Absence of pulsation in radial arteries meant usually that large blood-vessels in the abdominal cavity were open. Persistent nausea and vomiting are among the most important

signs of perforation of intestines, and meant much more than shock. Immediately after operation abdominal respiration will sometimes begin, and the nausea and vomiting will stop.

In many post-mortem cases, it has been observed that the patient's life could very easily have been saved by a simple operation, and, inasmuch as the operation of exploration added to the patient's danger, patients should be given a chance for life by immediate operation in the majority of cases.

Where the kidney or ureter have been injured by a bullet the kidney will have to be removed in most cases, on account of persistent hemorrhage, which can not be controlled. Deep sutures can be inserted in the spleen sometimes, and bleeding from that organ stopped. If bleeding from the spleen can not be stopped the organ must be removed.

Incisions for exploration should be made in the middle abdominal line, because of the greater ease in getting at organs and in completing the toilet of the peritoneum afterward.

The use of the continuous suture has not been properly appreciated, the speaker said, and even where half of the lumen of the intestine had been destroyed, it was possible to close the opening with a single line of interrupted suture of silk, which inverted the margins of the wounds and opposed peritoneal surfaces. Silk was better than cat-gut, unless the cat-gut was a very reliable specimen; and the speaker himself preferred silk for suture.

Diagrams showing the advantages of certain ways of making resection wounds were shown, and great stress laid upon the necessity for giving the region of the wound the greatest possible amount of vascular nutrition in every case in order to avoid the danger from gangrene. If exposed wound surfaces are left in the peritoneal cavity, the speaker covers them as far as possible with peritoneum in order to avoid discharge from

healing wound surfaces into the peritoneal cavity.

Dr. N. Senn then presented a paper entitled, "A Contribution to Experimental Intestinal Surgery," and presented numerous specimens showing the great advantages gained by making intestinal anastomosis rather than resection in case of intestinal injury. The paper called forth rapt attention from the audience, and Dr. Senn was allowed to speak for more than an hour instead of the legal twenty minutes. The subject was too elaborate to be briefly reported, but the coming report in the published transactions of the Congress will be eagerly awaited.

MORNING SESSION,

TUESDAY SEPT. 6.

The Section convened at 11:20.

Dr. John Thomas presented a paper, which he stated was particularly of interest because of its tables of statistics. The title of the paper was "Three Hundred and Eighty-four Laparotomies for Various Diseases: a Resumé of the Writer's Experience." The author said that ventral hernia occurred in about ten per cent of his cases, and that hernia occurred in a much larger proportion of cases than was usually supposed. Men who reported few ventral hernias did not hunt up their cases after a few months had passed, in order to determine whether hernia existed or not. The speaker prepared sponges antiseptically with strong bichloride solution. He still used the steam spray in abdominal operations because of the moral help that it gave, even if it was of no assured value antiseptically. An important thing was the electric light in proper shape for examining the dark corners in the abdominal cavity. Often it was not wanted, but its value was remarkable in many cases.

The speaker believed that one fourth of fatal cases after ovariectomy were fatal because of some trifling fault in the operator's work, and that great care and experience gave correspondingly better results. Death after ovariectomy usually resulted from peri-

tonitis or septicemia. Two of the author's cases in which the bladder was opened recovered without trouble. Many cases after the removal of ovarian tumors die of abdominal cancer. Particular attention was called to the number of patients which die from this cause. In this reported series of cases the patients varied in age between twelve and seventy-three years, and the tumors were from one pound to one hundred and twelve pounds in weight each. The abdominal incision was not over two inches in length, except in unusually fat patients, or in patients having some unusual requirement for a longer incision. The author did not use a clamp on the pedicle and seldom a ligature, but was satisfied with the actual cautery. The actual cautery is sufficient, when it is properly used, in almost all cases.

Silk sutures were used for the abdominal wall and all muscular and fascial planes brought into apposition. He used drainage tubes less and less, and used small ones by preference, cleaning them out by aspiration with a small syringe.

One case was mentioned in which a silk ligature escaped two years after it was fastened to a pedicle, and the knot and ends of silk were perfect. In another case six knots came away during two years. These were the only two cases among the whole number in which ligature came away.

He had had occasion to make post-mortem examination a number of years after operation in a good many cases, and had found no ligature remaining—only little pigmented spots at their sites, and not even puckering of tissues in the vicinity. The greatest number of consecutive operations without death was thirty-eight. Cysts do not suppurate unless they communicate with the external air or with a mucous cavity. The "so-called" suppurating cysts which are often reported would be found usually to be filled with sebaceous material, which looked just like pus macroscopically, but nothing like it microscopically.

Parotitis after ovariectomy was in his experience a sign of no serious import.

Removal of ovaries and tubes for the purpose of stopping menorrhagia was not a reliable measure. It is best to remove uterus and all when it is very important that the hemorrhage be controlled. The author had one case of a cyst without a pedicle expelled by a cough through the incision during an operation.

Removal of ovaries and tubes for subjective nervous symptoms without definite objective signs was reprehensible practice as a rule. He had been persuaded to operate in five such cases, and in one of them the patient was cured of mania of twelve years' standing. The other four cases were not better, although the patients said that they were. Two retroperitoneal myxo-lipomas of the author's were very large and had simulated cysts when the external examination was made. The fat "joggled" like fluid when it was percussed. Pyosalpinx, according to his experience, was always gonorrheal or tubercular.

A paper from Dr. Hewson was then read by the Secretary. The paper described the author's method of closing wounds by means of a tenacious paste and gauze, thereby avoiding suturing in many cases.

Dr. J. M. Mathews read a paper entitled, "When is Colotomy Justifiable?" It was not justifiable, he said, in cases of stricture situated within three and one half inches of the anus, nor in cancer of the lower portion of the bowel, nor for tumors and abrasions which closed the bowel, neither was it justifiable in cases of congenital occlusion of the rectum. Where the rectum was occluded by a stricture higher up than three and one half inches the operation was usually proper. Linear rectotomy should take the place of colotomy as a rule. Colotomy for cancer does not prolong life. The author is not an advocate of forcible and gradual dilatation of strictures as a rule; linear rectotomy is better.

Mr. Samuel Benton, of England, who

had an extensive special practice in rectal diseases, thought that colotomy relieved pain more than Dr. Mathews said in cancer cases. He was fond of electrolyses in benign strictures, and increased the size of bougies rapidly with aid of electrolyses.

Dr. O'Neal injected carbolic acid in malignant tumors and then scraped away destroyed tissue, giving great relief.

Dr. Anthony and others spoke of the great harm done by incompetent operators with carbolic acid about the rectum. Great loss of life, it was agreed, resulted from the Brinkerhoff method in the hands of ordinary men.

Dr. W. H. Hingston, of Montreal, performed colotomy for relief of distress oftener than Dr. Mathews did.

AFTERNOON SESSION. Dr. Hingston discussed the paper of Dr. Parkes of yesterday and was pleased with it, but did not dread loss of time when operating on the abdomen so much as Dr. Parkes did. Referring to Dr. Homan's paper, he strongly coincided in the belief that "normal ovariectomy" was reprehensible practice. Dr. J. B. Murphy referred to Dr. Parkes' paper, and related the histories of three recent gunshot cases of his own, two of them successfully operated upon. Dr. Murphy insisted on the use of accurate antisepsis for operation in these cases, and urged early operation. Delay until peritonitis sets in is usually criminal practice. Median incision is not always best. Dr. W. F. Peck then reported the history of a successful case.

Dr. S. C. Gordon did not have so many ventral hernias as ten per cent, he said, referring to Dr. Homan's paper of the morning. He removed ordinary rigid ovaries oftener than Drs. Hingston or Homan did, and gave good reasons. M. J. J. Tait's operation, which he had done, three died and twenty-five patients were practically cured of nervous symptoms dependent on pathological changes about ovaries and tubes.

Dr. Kuder reported a case of successful laparotomy or a gunshot wound, referring

to Dr. Parkes' paper of yesterday, and insisted that the operation should not be done except by men who were competent to work with scientific antisepsis. Dr. Satterthwaite followed the probe with the correct knife always. Dr. Link made valuable suggestions, and insisted on early operation in gunshot wounds. He reported a successful operation of his own.

Dr. Donald Madair read a paper entitled "Clinical Notes of Three Cases of Laparo-Nephrotomy with Complications; Two Successful, One Fatal."

Section adjourned.

MORNING SESSION,

WEDNESDAY,

SEPTEMBER 7.

In discussing Dr. McLain's paper of yesterday Dr. Hingston, of Montreal, said that he would avoid the median line incision for removing a diseased kidney if possible. He had had three cases of removal, one successful, two fatal of necessity. Dr. Edmund Owen, of London, liked the median abdominal incision for large kidney tumors and the lumbar incision for small tumors. He reported on the successful case of removal of a large tumor.

Dr. F. Lang said that a large proportion of cases were pyonephrosis and the sacs of large size. He had operated seven times for removal of kidney. In many cases he preferred to make a small lumbar incision, empty the contents of the tumor as far as possible, and then wait for the thing to become sufficiently small to come out through a lumbar incision. He said that in the operation for nephrolithotomy he placed the patient on his abdomen and put a pillow under the abdomen. The lumbar incision then being made the kidney would be forced partly into the incision and make operation easy.

Dr. McLain, in summing up, said that he would not operate through the peritoneum if he could get at the kidney in a surgical way through the lumbar incision; but in his three cases laparotomy was necessary on account of the size of the tumors.

Dr. M. H. Richardson then read a paper entitled "Gastrotomy for Foreign Bodies in the Oesophagus," and presented a patient from whose oesophagus he had removed a set of false teeth and their plate by means of gastrotomy. He had experimented at the dead-house very extensively, and found that if a foreign body was lodged at a point situated within six inches of the cricoid cartilage the object could be removed from above or from the side; but when it was lodged below that limit gastrotomy had better be done. He drew diagrams describing methods of operation, and gave a scholarly description of the operation and of his researches.

Dr. F. S. Dennis then read a paper reporting a case of amputation at the hip-joint for sarcoma of the diaphysis of the femur. The operation was successful, and up to the present there has been no sign of return (operation done a few months ago). The large wound healed easily by primary union, but later it opened a little and discharged pus and blood. Examination showed that the ligamentum teres had sloughed and made all the trouble. The slough being removed, all healed kindly. The operation had been done five months after the first appearance of pain, and at the time of the operation the tumor was very large, fusiform, and a portion of the contents was semi-fluid. At the operation hemorrhage was controlled by an elastic tube passed over the groin and about the buttock according to Lord's method. Hemorrhage was completely controlled except from the obturator artery by this simple method. Longonleck's method of amputation was employed.

Dr. J. J. Garmany then read a paper entitled "The Surgical Treatment of Epilepsy and Insanity by Trephining," and related the history of a successful operation of his own. Referring to his studies on the subject, he said that lesions in the parietal and frontal regions are followed by like symptoms. Over fifty per cent of lesions

in these regions are followed by traumatic epilepsy and complicated later by insanity. The lesion almost constantly found might be termed an "irritative lesion." The irritation of the dura mater is the chief cause of the psychical as well as the motor disturbance.

AFTERNOON SESSION.

Mr. Samuel Benton, of London, read a very instructive paper entitled "Fistula in Ano of Horseshoe Shape," and he explained that he wished particularly to call attention to that form of blind fistula opening into the rectum, just within the ano, and complicating fissure. It did not begin as an abscess, but began near the upper angle of an old fissure, and was very apt to be overlooked and to frustrate efforts at curing the fissure. He divides the sphincter muscles completely and turns out the walls of the sinus.

A paper entitled "Some remarks on Rodent Ulcer of the Rectum," by Mr. A. T. Norton, of London, was read by the secretary. The paper was principally deduction as to the actual pathological condition present in the disease.

Dr. Grant (Bey), of Cairo, then read an hospital report of some of Dr. Mackey's cases of liver abscess, the paper having been prepared by an Assyrian assistant of Dr. Mackey's. Evacuation of the contents through a small trocar was advocated as a first measure in single abscesses of the liver. And if this method was not sufficient, free incision and evacuation of contents according to strict antiseptic methods was preferred.

Dr. Winchell, discussing the question, said that he opened liver abscesses widely with antiseptic precautions.

Dr. Pascal, of Mexico, opens the abscesses wide enough to allow insertion of a long drainage tube then puts the other end of the tube in a basin of aseptic water under the bed. This is left in place for a long time, and the aspiring effect of the column of fluid in the tube is extremely beneficial.

Dr. L. H. Sayre then read a paper entitled "The Treatment of Abscesses Connected with Diseased Vertebrae by Incision and Thorough Drainage." He spoke of the miserable old-fashioned way of letting these abscesses alone or operating imperfectly. In 1876, Dr. Sayre, in a graduation thesis, advocated free anterior and posterior incisions in cases of psoas abscesses, the employment of large drainage tubes and antiseptic treatment.

Dr. Edmund Owen, of London, spoke enthusiastically, advocating the same line of treatment, and described his own methods.

Dr. Sprengel, of Dresden, thought that aspiration with a small aseptic trocar was best in most cases, and said that we should wait for absorption in many cases. He opens when the abscess is pointing, but avoids free incision otherwise.

Dr. F. Lange said that we must not forget that these abscesses were only a symptom of tuberculosis of the spinal column, and that to the primary disease attention must be principally turned. He spoke of the great advances made in curing tuberculosis of the spinal column by Dr. Sayre with his plaster jackets.

Dr. Thomas F. Chavasse, of Birmingham, England, liked the lumbar incision alone for several reasons.

Dr. Lange said that he preferred not to open these abscesses if he could avoid it while the disease of the bones was acute. Several speakers and Dr. Sayre in summing up said that they opened psoas abscesses as soon as they appeared.

A paper entitled "The Removal of Sequestra by Solution in Acid, with Experiments for Determining the Best Solvent," was then read, and the section adjourned.

MORNING SESSION,
THURSDAY, SEPT. 8.

Dr. A. C. Bernays, of St. Louis, in discussing the paper of Dr. Richardson of yesterday, said that in suturing the wound of the stomach he preferred to unite the margins of the wound

directly with catgut first, and then invert the wound with interrupted Lembert sutures.

In the discussion on Dr. Dennis' paper of yesterday, Dr. R. T. Morris said that he believed with many others that malignant sarcoma was an infectious microbic disease, and that it was strictly localized at the outset. He believed in early and extensive operation while the sarcoma was still confined to one locality, as in Dr. Dennis' case.

Dr. McLain said that he thought the method that Dr. Dennis employed for controlling hemorrhage from the femoral vessels during the operation was treacherous, and might give trouble in another case. Dr. Weeks, of Maine, and Dr. Gordon, of Maine, have recently employed the same apparatus in a case of the latter's. The rubber band was employed, the leg amputated at the hip-joint, and the patient made a rapid recovery, with primary union at all points.

Dr. Manley said that the rubber band was good with emaciated patients, but he liked Lister's method of controlling hemorrhage much better for fleshy patients.

Dr. Reyher, of Russia, said that he preferred Volkmann's method for controlling the vessels in a hip-joint amputation. The rods being passed through the tissues and the constricting cord being applied, no blood need be lost. He related a case in the field in which he used two sharp sticks in place of the rods.

Dr. Chavasse, of England, said that the method for controlling hemorrhage by Dr. Dennis—Jordan's method—was not a good one in Dr. Dennis' case, because in such sarcomas so much tissue at a distance from the tumor ought to be removed, and the bands interfered.

Dr. Assakay, of Bucharest, then read a paper in French, entitled "Iodol in Surgery." He said that under a dressing of iodol, large wounds would unite by primary union without assistance from other antiseptics. Iodol was particularly useful as an application for suppurating open wounds.

It retarded suppuration, deodorized the wound, and hastened cicatrization. In ulcerating and gangrenous wounds iodol stops the process, and this action is well marked in some cases of chancre. Soft chancres are often rendered innocuous quickly under iodol, but other applications also are sometimes necessary. Iodol is superior to iodoform, because it is free from odor and has no toxic effects. Doses of two grammes of iodol daily can be employed for a long time without producing any functional trouble. These doses give marvelous results in tertiary syphilis, and in the secondary stage rapidly causes the symptoms to disappear. The drug aids nutrition and increases flesh and strength, particularly in cases of syphilitic malnutrition. In some acute infectious diseases—as erysipelas—it acts as an antipyretic and causes a rapid fall of temperature.

Mr. Edmund Owen, of London, then read a paper entitled “Parcentesis of the Articulation in the Early Stages of Disease of the Hip Joint.” He related the history of a case in which the hip-joint rapidly became filled with fluid and with great accompanying disturbance. He aspirated the joint cavity, and not only was pain stopped, but the disease did not further develop, and in two weeks the child was well. Hip-joints are tapped less often than knee-joints, he said, because according to the old adage “out of sight out of mind.” The swollen joint was not so easily observed.

Dr. L. H. Sayre agreed with the author of the paper as to the beneficial effects of removing the fluid from the hip by aspiration early. Sometimes it is impossible to get a limb down into a straight comfortable position until this is done.

Dr. Lange said that such a procedure would have no real effect in the way of curing tuberculosis at the hip-joint.

The discussion of Dr. Garmany's paper then being in order, Dr. Bernays related the history of a case of traumatic epilepsy and insanity in which he had cured the patient

by trephining. To get at the seat of lesion behind the temporal plane he made a semi-circular incision along the whole upper border of the temporal muscle, and turning the muscle down exposed the site at which unsuccessful trephining had been previously done. He found on removing a large button of bone that the dura mater bulged, and on incising at the bulging point an alarming amount of cerebro-spinal fluid escaped, so that when about ten ounces had run out he closed the dura to stop further escape, fearing that the patient might die. He could look down through the fluid and see the brain, which seemed to be much smaller than the cranial cavity at the time.

Dr. Manley then read a paper describing the history of a case of bullet wound of the intestine in which he had recently operated successfully. Dr. Manley called particular attention to the fact that laparotomy in the male is a much more serious operation than in the female, because of the fact that in the male there is normally so much movement of abdominal organs during respiration. Females not having abdominal respiratory movements can be operated upon more safely.

AFTERNOON SESSION.

Dr. Robert Newman presented an extremely valuable paper giving new and original points concerning the use of a galvanic electrode apparatus for use in the treatment of enlarged prostate. Battery demonstrations and specimens were shown.

Prof. Durante, of Rome, then read a paper entitled “A Contribution to the Study of Endo-cranial Surgery.”

Dr. Carnochan presented a specimen showing bony union occurring after intra-capsular fracture of the femur in a patient aged seventy years. He kept the patient in bed for nine months.

Dr. Morris said that in cases in which the artery of the ligamentum teres was preserved in patients at that age union could occur, but that such a case would be an anomaly, and much harm would be done by

the beautiful specimen if it encouraged other men to keep old patients in bed, hoping to get union after non-impacted intra-capsular fracture of the femur. He would not try to get union, as a rule, because many lives would be lost in trying to save one leg, but he would get the patient out on crutches, with light extension apparatus, just as soon as inflammation had subsided. If we could only tell in what cases the artery of the ligamentum teres was preserved, and the head of the bone could receive blood supply, the case would be different.

Dr. F. Le Moyné read a description of a very instructive case of unlimited fracture of the middle of the femur in which he employed a clamp wired to the bone. Complete union was obtained. The clamp and wires were left fastened to the femur for ten weeks and then removed.

Dr. J. St. P. Gibson described some splints which were of great value in treating fractures near the joints of long bones.

MORNING SESSION,

FRIDAY, SEPT. 9.

Dr. M. J. Roberts, of New York, presented a paper en-

titled "A New Method of Operating on Bone." He brought before the Section his electro-motor invention, and ingenious contrivance connected with it, for use in bone surgery. He showed the necessity for doing more exact work in treating deformities of bone and showed his method of making measurements with mathematical instruments before operating. The bone saws of various shapes and the drills and the incandescent lights for cavities were put in operation. Dr. S. S. Koser, of Williamsport, Pa., said that the apparatus was too elaborate for use in private practice and that he could do with a dental engine all that Dr. Roberts could do with his apparatus. Dr. Close said that Bonwill's surgical engine was employed by him, and that few persons appreciated the great advantages given by a dental or surgical engine. Dr. Roberts in closing the discussion said that these engines were too

slow to give the precision of movement that he wanted and could get with his tactile sense aided by his apparatus.

Dr. George E. Post, of Beirût, Syria, read a paper entitled "Calculus in Syria." He said that stone was very common in that country, and that in one day four children had been brought to him from one village with stone in the bladder. The native physicians of the old school type did not use instruments for examining the bladder, although they frequently performed the operation. Professional "stone-cutters" went about with a bag of calculi over the shoulder as an advertisement. The way of operating was to insert two fingers in the rectum, press the stone forward against the perineum, and then cut directly down by a median incision on the stone. The rectum was often cut, and many troublesome fistula were seen. Calculi are apt to form in these fistula, and many interesting cases were related by the speaker. Grape seeds sometimes collect in these fistula and so do lentils, and the speaker had seen sixty-four calculi in one fistula, the nuclei being seeds and lentils. In European literature the expressions "phosphatic diathesis," "uric acid diathesis," &c., are often seen, but with his large collection of stones, each one of mixed character, he should say that such terms were not very scientific, because patients who developed the stones had different kinds of diathesis at different times. Dr. Post related the histories of several cases of urethral calculus which he had had.

Dr. Grant (Bey), of Cairo, said that calculi are very common in Egypt, and that it was found that the reason was because of the number of bilharzia eggs in the bladders of Egyptians, the calculi forming about these nuclei.

Dr. R. T. Morris asked what species of trematode was most common, and if filaria sanguinis eggs were not also found in the bladders of the Egyptians. He asked Dr. Grant how many sections of calculi he had made or seen, and if the eggs of parasites

were found in all of these specimens. Dr. Grant in response said that bilharzia hamatobium was the fluke referred to, and that filaria sanguinis was a common parasite in Egypt. He did not speak from personal observation in saying that the bilharzia eggs formed the nuclei of calculi in Egypt, but quoted from responsible authority.

Dr. Post said that in Syria, where stone is very common, bilharzia is very rare.

Dr. Oscar J. Coskeny then read a paper entitled "An Uncommon Fracture with Dislocation of the Tarsus and Metatarsus."

Dr. N. Senn read a paper entitled "Elastic Constriction of the Neck with Exclusion of the Trachea as a Means of Controlling Hemorrhage in Operations on the Head." He said that the surgery of the limbs had been revolutionized by Esmarch with his method of securing a bloodless field for work, and it was the speaker's intention to assist in operations about the head by cutting off the blood supply temporarily. He cuts down to the trachea, passes an elastic ligature beneath the trachea and around the rest of the neck. Compression then being made, the circulation through the neck is stopped except through the vertebral arteries, and respiration is carried on easily. In operations on dogs he found that compression applied for two hours did not interfere with the phrenic or vagus nerves as far as their functional activity was concerned, and at the same time circulation through the large arteries of the neck was thoroughly controlled. The ligature being removed, the animal had suffered no harm.

Dr. Carnochan then presented a specimen of the pelvis and femur of a case of congenital dislocation of the hip-joint. He said that there were two principal theories regarding the cause of the deformity. One was that the dislocation was caused at birth by a rough midwife, and the other was that it was a congenital lack of development.

Dr. Morris said that the question of

rough midwifery could be eliminated, because in the northern European countries, where the deformity was much more common than in this country, the medical men were known to be particularly skillful. In some cases the acetabulum was wanting, while the head of the femur was fairly well developed, and in other cases there was a better marked acetabulum, with perhaps no head of the femur at all. The deformity, he thought, was due to an error in foetal development, and he had observed casually that the deformity was more common in countries in which tuberculosis of the bones was most common.

Dr. Link then read a paper on the subject of the "Anæsthetic of Small Quantities of Alcohol Rapidly Administered, and the Value of the Method in Certain Operations."

Dr. A. H. Wilson read a paper on the subject of "The Histologico-Pathological Changes in the Prostate Gland," and illustrated the subject with the stereopticon, showing sections of specimens.

METASTASIS.

<hr/>	<p>Dr. Paul Bar, of the Maternity Hospital, at Paris, considers metastasis as affording undoubted evidence of the transportation of the micrococcus of pyemia. It would be difficult to understand how ischio-rectal abscess could depend upon pulmonary disease, or pulmonary disease be influenced by the cure of rectal or anal fistula. If the bacillus tuberculosis, as is generally supposed (Walsham), is the cause of ischio-rectal abscess, it would be difficult to see how this microbe could pass all the way from the lungs to the rectum without colonizing and developing abscesses on the way. If the bacillus traverses the lymph channels, it must necessarily appear in the glands through which the lymph stream flows. If it is carried by the blood miliary tuberculosis is the result; and not many cases of this form of disease live long enough to develop fistula from an ischio-rectal abscess.</p>
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EYE, EAR, AND THROAT.

SECTION OF
OPHTHALMOLOGY.NINTH INTERNA-
TIONAL MEDICAL
CONGRESS.WASHINGTON, D. C., SEPT.
5TH TO 10TH.

The section was called to order at 3:15 p. m., by the President, Prof. Julian J. Chisolm, M. D., of Baltimore.

Secretary, Joseph A.

White, M. D., of Richmond, Va.

Assistant-Secretary R. L. Randolph, M. D., of Richmond, Va.

The President on taking the chair expressed his sense of the responsibility of his office, and proceeded to announce, in the course of his address, some of the great questions to be considered. He felt that great good would surely come.

Dr. Mooren, of Dusseldorf, read a paper on eye troubles in their relation to occipital disease. He locates the sense of sight in the occipital lobes.

He has seen forty-two cases of disease of the occipital lobes producing impaired pupillary movement, with impaired acuity, and limited perception of form, size, and space. The color sense is on the most exterior part, with a special center for every character and form of vision. The centers of the right lobe are destined to influence the function of the left eye, and so with the left lobe of the right eye.

The pathological changes which bring on atrophy after a more or less chronic neuritis optica, are now known to arise from disease of the cortex of the occipital lobes. Congestions here impair the color sense, then comes peripheral limitation of the field, with diminished acuity of perception.

The essayist quoted the experiments of Prof. Adam Kiewicz on the effects of compression of the brain in determining hyperemia and inflammation at the origin of the optic nerves.

Dr. H. Gradle, of Chicago, mentioned the case of a child sixteen months of age with symptoms of scarlatina, opisthotonos, and impaired sight, soon becoming totally

blind. The iodide of potassium was prescribed and complete recovery followed with restoration of sight.

Dr. Dickinson, of St. Louis, asked if Professor Mooren adopts the theory of total or partial decussation of the optic nerve fibers, to which Mooren replied by a diagram, showing the distribution of fibers from the right side to the outer half of the right retina and the inner or nasal half of the left, and so with the other side.

Dr. Marmion, of Washington, reported the case of a lady who had gradually developed impairment of perception, followed by diplopia. A suspicion of specific infection induced him to prescribe mercury and the iodides. Ataxic phenomena came on, and she finally expired. Autopsy revealed a large gumma of the right inferior lobe of the cerebellum.

Dr. Bermann, of Washington, reported a case of blindness produced by caffeine, which acted by continued anemia of the occipital lobes of the cerebrum, finally ending in atrophy.

Professor Chisolm presented a man with loss of sight in the right eye. He had a large intracranial tumor, which by pressure had caused absorption of the walls of the skull over the left occipital lobe. The sight in the left eye is now impaired.

Dr. Ole Bull, of Christiana, Norway, read a paper on pathological changes in the retinal vessels. In a practice of 6,500 cases he has seen eighteen cases of disease of the retinal vessels. He then proceeded with a detailed description of the cases. He traced the beginning of constriction of arteries in occasional spasms, soon followed by anemia and general functional impairment of sight; emboli thrombi and gumma were considered as occasional causes of organic diseases of the walls of the vessels. In some cases, distention; in others, constriction; in all, serious impairment of sight or total blindness.

Professor P. D. Keyser, of Philadelphia, asked if in any of the cases sight was re-

covered. He reported a case of embolism in a man who recovered sufficient sight in a limited central field to see all ordinary objects and distinguish a man from a woman at the distance of a hundred yards.

Dr. Heyl, of Philadelphia, said the cases of embolism of the retinal vessel reported are not all satisfactorily made out. Many of them are simply due to dilatation of the heart or the arch of the aorta. He thinks the endothelial cells represent terminal nerve filaments, and changes are often found sufficient to account for a great many disturbances of the blood supply in the retina.

Dr. Leartus Connor, of Detroit, read a paper on "Hot Water in the Treatment of Eye Diseases." He maintains that hot water employed by the aid of an inverted glass containing four or more ounces may be continued several minutes at a time, and then removed, to be reapplied as may be thought necessary. He finds it of great service in all cases of iritis.

Dr. J. L. Thompson, of Indianapolis, would prefer the slippery-elm poultice, applied hot, in all acute cases of inflammation of the anterior portion of the uveal tract. He would not use a poultice in any form of conjunctivitis.

Dr. P. D. Keyser uses steam directed against heavy compresses of dry absorbent cotton.

Dr. Henry Power, of London, thinks dry heat often more serviceable than moist heat. He employs dry hops in a small bag like a pillow. He would not under any circumstances employ steam.

Dr. Eugene Smith, of Detroit, fully confirms Dr. Power, and thinks in ulcerative keratitis great advantage is gained by dry heat, whereas moist heat does harm.

Dr. P. T. Huckins, of Los Angeles, Cal., agrees with Dr. Connor in the superior efficacy of heat, aided by atropine. He prefers salicylated cotton soaked in hot water, changed sufficiently often to maintain a state of relief from pain for four or five days at a time.

Dr. A. Blitz, of Minneapolis, Minn., always uses hot water in the treatment of iritis, and finds it an efficient adjuvant to the ordinary mydriatics.

Dr. Abadie, of Paris, thinks that the treatment of eye troubles with hot water has lost much of its importance. It is no longer employed in conjunctivitis, phlyctenulosa, purulent and croupous conjunctivitis. In the latter affections he prefers cauterization with citric acid, this latter rendering far better service than hot water. In corneal troubles internal medications and judicious antiseptic applications are far superior to hot applications; in infectious ulcers of cornea, iodoform powder and washing with a solution far more powerful than hot water; in iritis, accompanied with violent pain, hot applications are good, but still in this case injections of morphia, leeches, and, above all, judicious internal treatment, *e. g.*, quinia sulph., salicylate of soda, are all that is necessary.

Dr. A. W. Calhoun, of Atlanta, Ga., suggested as a means of applying heat to the eye a small, thin rubber bag filled with water at whatever degree of heat that might be desired. This means avoided the necessity of frequent changes; was convenient and easily managed. He also suggested the rubber coil of Dr. Bullar, of Montreal, as being an excellent mode of application of heat.

Dr. Hotz: In applying heat to the eye it does not matter in which manner or by which means it is applied. It will benefit the patient in affections of the anterior part of the eyeball whenever there are signs of venous stagnation. In conjunctival affections, stagnation is indicated by odema and chemosis; in iritis by the engorgement of these vessels and the non-response of the pupil to mydriatics. Under these conditions warmth will be beneficial, because it relaxes the blood-vessels, thus favoring the efflux of the blood and favoring also the absorption of serious effusions through the walls of the blood-vessels. The prin-

ciple, therefore, is to apply heat where there is a stagnation of blood to be broken, and the grateful feeling the patient experiences when this end is being accomplished, is the best gauge by which to tell which is the proper temperature in each individual case.

Mr. Henry Power, F. R. C. S., of London, read a paper on "Microbes in the Development of Eye Diseases."

He finds it easy to recognize the pathogenic cocci and prevent their entrance to the eye, but not so easy to destroy them once they get in.

He uses boric acid generally, and is pleased to say it is often sufficient where it is used early and persistently.

Prof. Abadie, of Paris, thinks a distinction should be made between the pathogenic and the non-infective microbes. If we are to depend upon antiseptics we shall be disappointed. If we can secure aseptic conditions in such of our operations as extraction of cataract, no suppuration or necrosis will follow. If we rely upon antiseptics, and have not really a completely aseptic condition of the eye, we shall find occasionally phlyctenular disease of the cornea when we escape general sup-puration.

Prof. Manolescu, of Bucharest, thought much depended upon the understanding one has of the local surroundings and the promptness with which we act. Surely we may not be able to control a disease which might often be prevented with little difficulty.

Dr. Heyl desires to suggest a method of treatment of gonorrheal conjunctivitis based upon the idea that the disease begins in the retrotarsal folds, and when the cornea is involved by the invasion of the nutrient channels the gonococcus of Neisser is crowded into the canals and by mere mechanical pressure the cornea becomes necrotic and finally sloughs. The continued application here of hot water causes the lymph to flow on, and thus relieves the corneal tissue from death by pressure.

He would use a salve of agnine and oleoresin of cubebs, and thinks well of iodoform.

Dr. B. J. Baldwin regrets Mr. Power did not present the surgical aspects of his bacterial pathology. He does not believe in bacterial infection except in large hospitals. He has extracted eighty cataracts with five failures, two from suppurative keratitis, two from insidious iritis coming on thirteen days after the operation.

Prof. Landolt, of Paris, thought it of the greatest importance to avoid crowded hospital wards in operations. Even private houses are not always free from infective matters. He uses corrosive sublimate, 1 to 5,000, for instruments, and the hands, preceding the operation by the local installation of the antiseptic.

Dr. Dudley S. Reynolds had an established habit of refusing to operate on persons not rendered aseptic beforehand. He then took every possible precaution, used sublimate solution as described by Landolt, and had the good fortune to have recorded one-hundred and forty-six extractions of cataract without a case of suppuration. He does not think iritis coming on thirteen days after operation due to local infection.

Dr. P. D. Keyser relies upon the saturated solution of boric acid, and has seen great reduction in the comparative frequency of suppuration in operation wounds.

Dr. Galezowski, of Paris, has seen sup-puration of the iris and the cornea from an operation for chalazion. He finds it necessary to see that his instruments are perfectly clean, and the patient and his surroundings entirely aseptic.

Dr. Eugene Smith has an established habit of operating in the surgical amphitheatre in the presence of his class. He uses both boric acid and sublimate 1-5,000, and has never any fear of suppuration. He usually follows the surgical clinic, using the same table, and finds entire safety in the antiseptics used.

Mr. Power, of London, said he felt

that the discussion had drifted far from the line laid down in his paper. He was pleased to find so many engaged in aseptic surgery protected by antiseptic precautions. He had misunderstood Reynolds in his remarks about suppurations. He felt encouraged by such results, but feared they could not be obtained in large hospitals.

Dr. P. D. Keyser read a paper on a new instrument for operating in cases of posterior synechia. The instrument is a very small hook which he exhibited.

Dr. Galezowski, of Paris, has operated on anterior synechia by traction with a hook introduced through a peripheral section of the cornea. In acute iritis he punctures the cornea with good results. Subsequently he does iridectomy.

Prof. Mooren, of Dusseldorf, read a paper on the various methods of extraction of cataract. From an experience of 5.19 extractions he has concluded that it is best to do iridectomy before or at the time of extraction; glaucoma coming on after extraction through dilated pupil made iridectomy necessary before complete recovery from the extraction. He uses cocaine in all cases to secure local anesthesia.

Dr. Xavier Galezowski, of Paris, in a paper on "Extraction of Cataract," took occasion to say the excision of the iris is a great accident, and very frequently causes destructive inflammation in the iris and cornea. He prefers to extract through dilated pupil and corneal section. He thinks astigmatism often results from contracting bands of connective tissue in the plane of the iris. He advocates the extraction of opaque capsule with forceps.

Prof. Manolescu, of Bucharest, read a paper on "Cataract Extraction."

He demonstrated the proper value of extraction without iridectomy as compared with extraction combined with iridectomy; he performed 109 operations without iridectomy, of them he had trouble from prolapse of iris in 30 per cent, and other complica-

tions due to difficulty of cleaning the anterior chamber, and he concludes that the combination operation is more reliable, as it allows a better cleaning of the chambers and lowers the danger of iritic complications.

He uses corrosive sublimate solution as a wash before operating, the toothed forceps for removing the anterior capsule, and clears the wound of protruding parts of the iris and capsule with a rubber spatula. He dresses the eye with a firm, close bandage, which is changed early. He has very rarely had any prolapse of iris or of the capsule in the last 1,300 cases of combined extraction.

Prof. E. Landolt, of Paris, thinks we can not yet agree to do away with iridectomy.

In 1878 he published about seventy cases of extraction without iridectomy. He does, however, generally prefer iridectomy, and seeks to gain fair restoration of sight rather than a symmetrical pupil.

Prof. Adadie, of Paris, finds extraction without iridectomy greatly complicates the process of repair. It renders it difficult to remove cortical substance, and pre-disposes to synechia with all its sequelæ. He thinks in exceptionally favorable cases extraction may be safely done. He finds the iris particularly liable to prolapse or to become imprisoned in the angles of the mural wound, often making it necessary to re-open it.

Dr. Marmion said: I have listened with great interest to the arguments just read in favor of and against the extraction of cataract without iridectomy, but I must confess that nothing that I have heard has shaken my faith in the operation with iridectomy. Many of the objections urged against it are removed by the greater percentage of success which this combined operation secures. And some of the reasons urged against it by Dr. Abadie will not hold in cases where a preliminary iridectomy has been performed. And this pro-

cedure suggested, among others, by Prof. Mooren, of Düsseldorf, has been the one that I follow in all cases where a distinctive form of operation may be followed. Among the many arguments in favor of an iridectomy is the free exit it offers to cortical substance, that potent factor in the production of iritis.

Mr. Power, of London, operates through a dilated pupil and at once instills eserine. He removes the dressing every day, and does not find very frequently a prolapsed iris. His section is about one-third of the circumference in the corneo-scleral juncture, and he does not expect perfect results, though he is generally able to restore useful sight. He has abandoned iridectomy entirely.

Dr. Dudley S. Reynolds thought in carefully selected cases extraction without iridectomy might be preferable. In such cases he uses Græfe's knife, and allows the aqueous humor to escape before completing the section, which he makes as nearly in the plane of the anterior surface of the iris as possible. He uses Beer's knife when iridectomy is contemplated. He attaches importance to the operation without fixation forceps or the aid of an assistant. At the Philadelphia congress, 1876, he described the peripheral section of the capsule which has since become so popular. He now prefers to divide the capsule with the knife used in making the section of the globe, passing the point of the knife into the capsule as soon as the edge of the pupil has been cleared, and cutting on in such a manner as not to penetrate deeply into the lens lest it be dislocated, and making the counter puncture before reaching the opposite side of the pupil. This cuts the flap upward, but it tears in different directions as the lens escapes, more frequently leaving a clear central opening than any other method of capsulotomy. He uses a little absorbent cotton held in place with plaster, as a dressing. He removes this whenever it is wet, daily if necessary. If it remains

dry he leaves it four or five days. The dangers in extraction are now reduced to secondary inflammations of the iris, and ciliary body.

Dr. P. D. Keyser does not believe in any fixed form of operating. He always, however, does an iridectomy, and never expects iritis.

Dr. J. L. Thompson finds malaria frequently coming on during the period immediately following extraction, producing capsulitis or iritis. He rarely sees suppuration, but does occasionally. He can not believe it may always be prevented.

Dr. Baker thinks iridectomy need not be done to the periphery, but just so as to make an oval pupil. He thinks, with Reynolds, peripheral capsulotomy is advantageous.

Prof. Landolt, of Paris, prefers to make the corneal section and the iridectomy correspond in size and extent. He finds it of great service to snip off any protruding iris, even the second day after extraction. He deplors the necessity of introducing any forceps or spatula for replacing a prolapsed iris. His results are modified by the use of sublimate solution 1-5,000. He thinks the chief dangers are from irido-cyclitis, capsulitis, and vicious cicatrization.

Dr. Swann M. Burnett has extracted twenty-five cataracts without iridectomy with such results as to completely win him to that method. He sees some difficulty in extracting cortical substance.

Dr. Eugene Smith thinks no certain method is applicable in all cases, but feels that iridectomy should never be omitted.

Dr. Beaver wanted to know what has been the experience of gentlemen who have operated without iridectomy in cases of poorly nourished corneæ.

Dr. Valk thinks, with the aid of his retractor, the iris may be held back and extraction safely done. He exhibited a forceps with the ends of the blades turned at an angle of thirty degrees and a little short turn at the tips so as to form a very

short hook. With this he pulls the iris up to the periphery, and extracts the lens.

Dr. Fanny Dickinson has seen iridectomy followed by such good results that she never extracts without it.

Dr. J. J. Chisolm thinks we want more information on the subject of the introduction of antiseptic fluids and solution of eserine. He uses a free wash of the conjunctival sac with sublimate solution, or biniodide of mercury, after the speculum has been placed. He does a moderate iridectomy, and where opaque capsule exists he extracts the capsule. He uses the biniodide of mercury 1-5,000 after extraction, and often finds it passing into the anterior chamber without pain. He closes the lids with a small strip of diaphanous plaster and seldom takes it off in less than a week unless symptoms of inflammation exist.

MORNING SESSION,

WEDNESDAY,

SEPTEMBER 7.

A paper was read by Dr. F. C. Hotz on "Restoring the Normal Position of the Free Tarsal Border in

Trichiasis." His operation consists in grooving the tarsal cartilage in a triangular direction and turning the free border of the lid outward and upward. He illustrated the method by diagrams on the blackboard.

On motion, it was decided to defer discussion until the conclusion of the next essay.

Dr. Barton Pitts read a paper on "The Best Method of Operating in Entropion." He discussed the various methods proposed, and concluded by advising the removal of the mal-directed cilia by electro-cautery, which incites sufficient irritation in the hypertrophied lid to bring about resolution.

Dr. LeRoy Dibble said: "The modification I make of Dr. Hotz's operation is the dissection of the ciliary border. There is a degeneration of the lid, a bagginess. By dissecting the ciliary border there is absorption which leaves the ciliary border much thinner."

Dr. S. J. Jones had seen many cases where the operation had been performed;

and, while the primary result had been excellent a year or eighteen months later there seemed to be a return of the trouble, at least in a modified degree.

Dr. J. L. Thompson said: "Greatly as we are indebted to Dr. Hotz for the very ingenious and beautiful operation which he has described, I am, after years of observation of the results of different similar modes, fully convinced that a recurrence of the trouble frequently follows them all.

"Occasionally do we meet with cases where the tarsal margins are so uneven with hypertrophy here, atrophy there, bunches of stiff, misdirected cilia here and attenuated ones on other planes there, arching upward in one place and nipple-like projections in others, that a combination of many methods has to be practiced, and in spite of all these a return takes place; and I am as positive of this as of the fact of the revolutions of the earth upon its axis that there never has and never will be this side of the Lethean stream any one operation suitable to all cases."

Dr. Peter Keyser said that he was in entire concordance with Dr. Thompson; that we must use judgment in the operation required for cases of entropion and use that which seems best for the occasion. There can be no specific method of operating. He has had most excellent success in very severe cases by a method recommended some time ago by Prof. B. A. Pope, of New Orleans, in which he splits the lid and removes carefully the cartilage, thereby permitting the conjunctiva that has been contracted and drawn over so as to curve inward, to straighten out and fall down the length of the outer flap. A fold of the outer skin is drawn slightly up and held in position a few days by either plaster or sutures.

Dr. J. J. Chisolm desired to know why Dr. Hotz had changed recently the method of operation. Formerly, the disease was supposed to reside chiefly in a diseased condition of the tarsal cartilage, causing, with thickening, incurvation, in this way bringing the lashes in contact with the cornea.

The method of relief was clearly to correct this abnormal curvature. This Dr. Hotz secured by so passing the sutures from near the free tarsal border upward over the face of the tarsus, and then dipping the needle point in such a way as to take up the suspensory ligament, and then, through the edge of the wound when the thread is firmly secured, an outward concavity is obtained and the lashes everted. The old operation seemed to be so reasonable that Dr. Chisolm wanted to know why experience did not sustain Dr. Hotz in his first efforts.

Dr. E. Landolt, of Paris, read a paper on "Operation for Strabismus." He advised against tenotomy until after every other means, such as correcting refraction, stimulating the retina in the amblyopic eye with strong lenses, systematic muscular exercise with prisms, and every other mechanical means had been tried.

Dr. George F. Stevens read a paper on "Some Important Problems Respecting Insufficiency of the Ocular Muscles." He finds tenotomy, at times, advancement after Landolt's method advantageous. He uses a registering perimeter for determining the degree of muscular spasm, contraction, or insufficiency, and finds great satisfaction in locating the cause of the squint but the problem of successful treatment remains unsolved.

Dr. J. F. Fulton read a paper on the "Advantage of Early Operation in Squint." He hopes to prevent the amblyopia from disuse in this way.

Prof. Ch. Abadie, of Paris, read a paper on "Partial Tenotomy in the Correction of Some Forms of Squint." He entered into a discussion on the relations of ametropia to muscular defects and considered the motility of the globe in its relations to errors of refraction and certain nervous states.

Dr. E. O. Shakespeare read a brief account of his experience in squint. He finds often a want of harmony in the functions of the superior recti muscles. He can at times correct this with prisms. Where error of refraction exists he uses decentered lenses.

Prof. F. Manolescu read a paper on "Tenotomy of the Superior Recti" in certain cases of *Conjunctivitis Granulosa*. The object of this tenotomy is to turn the globe downward to carry the cornea out of the way of the upper lid and thus prevent pannus from friction.

Prof. E. Landolt, of Paris, gave a black-board demonstration of his method of estimating the degree of squint by supposing the patient to occupy the centre of a circle and the surface of the wall to be divided into radiary lines running from a common point (the object looked at) at 45° . The patient sees the central point in its proper place and at an angle of so many degrees in any direction within a radius of 45° , according to the squint.

Dr. Henry Power, of London, said he formerly operated by tenotomy without hesitation. He now proceeds more carefully and corrects the refraction first. He does not think a perfectly reliable method has yet been demonstrated. He finds the broad expanse of tendon often so great as quite successfully to defy all efforts at cure by tenotomy alone.

Dr. George F. Stevens said the principal object of all operations must be to secure binocular vision, and this may require advancement and partial or complete tenotomy of the strongly contracted muscle. This marks the necessity for great discrimination in operating.

Dr. E. O. Shakespeare wanted to know how a partial tenotomy may yield permanent results.

Dr. Landolt explained Professor Abadie's method by stating that it simply aided the efforts of an opposing muscle until it acquired sufficient power to antagonize the contracted one thus weakened.

Dr. Norton wanted Dr. Stevens to explain how he determined the degree and in what muscle the named slight deficiency exists.

Dr. Stevens answered by a diagram, showing his method of recording muscular deviations with a self-registering perimeter.

Dr. J. A. White thinks with Landolt that great importance attaches to the attempts at correction by orthopedic exercise. He has found great advantage from shortening Tenon's capsule.

Having tried muscular advancement, he finds it often unnecessary to do more than shorten the capsule.

Dr. J. L. Thompson objects to the absence from Dr. Stevens' paper of any reference to results.

Dr. J. J. Chisolm thinks it important to establish some rule as to the age of the patient.

Dr. Dudley Reynolds thinks tenotomy and advancement should be deferred until the patient is old enough to read the characters used in testing the acuity of vision, and that Landolt's method should always precede operative measures. The causes of failure are more numerous than most operators seem to admit, and to eliminate them we must study each case for months, or even years after operating.

Dr. Ben. J. Baldwin thinks the amblyopia of squinting eyes is due simply to disuse. He thinks in alternating squint the acuity of perception is not necessarily impaired in either eye.

Dr. Stevens thinks success is not so great that we may be able to offer any satisfactory answer to Dr. Thompson's queries.

Dr. Heyl entered into an elaborate explanation of the causes of squint in malformations of the macula lutea.

Dr. Ole Bull, of Christiana, Norway, wanted Dr. Heyl to explain how two maculæ could result from the causes named. Dr. Heyl said it would be difficult to answer.

MORNING SESSION.

THURSDAY, SEPT. 8.

Professor Xavier Galezowski of Paris, read an essay on "The Curability of Detachment of the Retina."

Dr. Galezowski speaks of the obscurity of the pathology of detached retina; its relative occurrence in hyperopic and myopic eyes and in emmetropia. There is decided predisposition in miopic eyes to

retinal detachment. He has noticed in most cases positive changes in the retina, but no positive changes in the choroid apart from the locality of the posterior staphyloma. When we have the atrophy of choroid, changes in the corpus vitreum are frequently seen in conjunction with detachment of retina and we often see iritic complications. A rupture of the retina is most frequently seen in this condition, and according to Leber the corpus vitreum liquifies and sinks down between the detached portion of retina and choroid.

According to Graefe, detachment of retina is incurable. He mentions two cases of spontaneous cure where simple retinal exudation existed which had not grown on to detachment. Two conditions absolutely essential to its existence—choroiditis and liquification of corpus vitreum.

Treatment with anti-phlogistic leeches, tongaline powder and compress. He makes iridectomy in all cases of detached retina when iritis exists. Showed a syringe with which he abstracts fluid from between the retina and choroid. In two cases there was a complete cure, and there were in all cases amelioration.

Dr. Abadie, of Paris, spoke at length on the pathology, and the utter insufficiency of all proposed methods of treatment of detached retina.

Dr. J. R. Cross, of Bristol, England, reported two cases of operation for the restoration of sight in detachment of the retina. One case failed from choroido-cyclitis; the other case was complicated by a puncture which brought out a limpid fluid, and the retina returned to its position in contact with the choroid, and useful sight was recovered.

Dr. E. Landolt, of Paris, thinks altered conditions of the vitreous and choroid being present in all cases of detachment, we should not expect many cures. He believes sometimes good results follow a free incision of the sclera and choroid, but never of the retina. In a traumatic case he saw

once in the person of a boy who had sustained a concussion which was relieved by closing the eye, and keeping the patient in a dark room for weeks, with no other treatment.

Dr. Eugene Smith has had good immediate results from puncture, but no permanent cures.

Dr. Holcome said that Dr. Galezowski did not mean by the word cure that the vision was restored, but that the detachment did not extend and the eye was saved from complete blindness.

Dr. P. D. Keyser said: "There is nothing so interesting to the ophthalmologist and the treatment of which is such an enigma, as detachment of the retina. He has tried the method of V. Graefe of incision of the retina to let the fluid out into the vitreous; also that of De Wecker, by introducing a small trocar through the sclerotic as well as opening the latter with the knife to let the fluid out, and none have been permanent. In the latter operation, through the sclerotic, the vitreous does not give pressure enough to force the liquid out. The instrument of Galezowski appears to assist this and deserves a test."

Dr. Dudley S. Reynolds thought more accurate observation should be made and larger numbers of cases reported before we should adopt any of these proposed operations for evacuating effused fluids. He does not believe any proofs exist of permanent relief from puncture and evacuation of subretinal effusions. Experience in tapping ovarian and other cysts do not encourage us to hope for lasting results in tapping subretinal effusions.

Dr. A. W. Calhoun sees no advantage from operation in detachment of the retina. He sees no chance for restoring sight, and thinks, in such cases, operative procedure may bring on pan-ophthalmitis or other serious diseases.

Dr. Henry Power, of London, does not see a detachment of the retina could ever be followed by the return of sight, even

after replacement. He had a case in which the fluid suddenly disappeared either by rupture into the vitreous or by absorption.

Dr. Bermann had but little experience, but felt there might be some means of relief, and he therefore hoped Galezowski's method would prove what its author claimed.

Professor Galezowski, of Paris, does not agree with Abadie, that distention of the sclera has any relation to retinal detachments. He does not dissent from the criticism of Dr. Keyser. The operation he proposes is simply a new and, perhaps, more promising method for chronic or bad cases. He finds in some cases arrest of the morbid action, and restoration of sight in the other portions of the retina. The detachment being arrested in its progress he feels the eye is saved by the operation.

Dr. Grant (Bey), of Egypt, read the paper of Dr. A. Burgsch, of Cairo, Egypt, on the "Predisposition to Glaucoma," which was based on clinical observation. The author being absent no discussion was indulged.

Dr. A. Sinclair read a paper on "Retinal Glioma" of both sides, in which he reported the case of a child having this disease six years ago, the patient still surviving in good health.

Dr. P. D. Keyser has seen cases apparently of undoubted glioma in which six and seven years had elapsed after enucleation without relapse. Yet it may be the diagnosis was not certainly correct. He advised operation with great caution as to prognosis.

Dr. Henry Power, of London, has doubts about the genuine cases of glioma being permanently relieved by operation.

Professor Galezowski, of Paris, has enucleated eyes for glioma, and in one case operated six years ago with apparently good results. He has, however, seen no more than four or five cases in all his experience. The disease is very rare in France.

Dr. Dudley S. Reynolds thought when

the disease originates in the retina, and early enucleation is done, permanent good may reasonably be expected. In cases of intra-cranial origin, or when it arises at any point external to the eye, enucleation is not indicated. He quoted the case of Anna Lewis, who had glioma in both retinae, and whose eyes he enucleated in 1877. She still survives without relapse. He thinks such results encourage us to practice enucleation.

Dr. R. L. Randolph said apropos of Dr. Reynold's remarks as to the origin of glioma, whether in the retina or optic nerve, I had an opportunity of examining a glioma not long since, which evidently had its origin in the optic nerve, the entire structure of the nerve being virtually destroyed, the nerve fibers being pushed about densely infiltrated with round cells, the characteristic cells of this strictly sarcomatous growth.

Dr. H. C. Paddock read a paper on "Ergot in Ophthalmic Practice," in which he advocated its use in congestions, chronic inflammations, and hemorrhagic conditions.

Dr. Henry Power, of London, read the essay of Dr. P. H. Mules on "Evisceration and the Artificial Vitreous." Dr. Mules eviscerates, introduces a glass globe, and stitches with cat-gut the scleral lips together, inclosing the glass globe and then closing the conjunctiva with silk sutures.

Dr. Powers claimed that the whole remains of the cornea should be cut away. In an experience of twelve cases Dr. Power has had nine successful cases.

Dr. J. R. Cross, of Bristol, thinks the operation of Dr. Mules as described by Dr. Power is a well-established procedure, but it sometimes happens that sympathetic ophthalmia will come on. The case of blindness from *bufthalmos* and such as have not suffered choroidal inflammation should be selected. He thinks this preferable to the introduction of the artificial globe into Tennon's capsule after enucleation.

Professor Galezowski, of Paris, thinks the question should be divided. Evisceration is not the best proceeding. The introduction of the artificial vitreous is not to be done except in successful enucleation. He thinks the pressure of an artificial eye upon the structures lying between this and the inclosed artificial vitreous must bring on such serious irritation as to render it inadvisable. He, therefore, favors enucleation as more simple and effective.

Dr. Baker mentioned a case where he introduced a glass button in place of the cornea, with the result to preserve sight until an accident caused it to fall out and the eye was lost.

Dr. P. D. Keyser mentioned a case of sympathetic ophthalmia following an enucleation which left a small bit of sclerotica attached to the optic nerve. He thinks no evisceration should ever be done in eyes lost from inflammation.

Dr. Dibble raises his voice against evisceration.

Dr. Eugene Smith has seen the happiest results from Dr. Mules's operation done by Dr. Power. The question of evisceration is now properly up for discussion, but when evisceration has been done, he favors the introduction of the artificial vitreous, and will practice it.

In the absence of the author, Dr. R. L. Randolph read a paper by Dr. H. Gifford on "Sympathetic Ophthalmia."

Dr. J. R. Cross, of Bristol, England, read a paper on "Retinoscopy as the Most Reliable Test of Refraction."

Professor Galezowski, of Paris, objects to the term retinoscopy. He prefers the old term, keratoscopy. He is satisfied it gives the best results, and he employs it without atropine. He thinks it must be gradually adopted by every practitioner.

Dr. A. R. Baker read a paper on "Retinoscopy," in which he maintained that retinoscopy, in a modified form, should become a part of the means employed in testing refraction.

Dr. S. M. Burnett thinks we should call the test after the object seen skioscopy.

Dr. Dudley S. Reynolds thought it impossible to practice this method of testing refraction, as the varying conditions of the accommodation must always alter the apparent state of refraction. The accommodation must first be suspended and then Snellen's basis of testing the acuity of sight by the visual angle will leave nothing to be desired.

Dr. J. R. Cross closed the discussion by admitting that varying conditions of the accommodation are kept constantly in mind, and form the only serious obstacle, but in negative refraction he finds it less objectionable. He uses the shadow test in all cases and would never prescribe negative lenses upon any other basis of testing. He insists upon the term retinoscopy, because the retina is as much to be observed as the shadow surrounding the point seen.

A cheap and convenient form of refraction ophthalmoscope was presented by Dr. Henry Power, of London. The instrument was devised by Dr. Walter H. Jessop, and has many points of excellence. It may be had of Picard & Curry, 199 Great Portland Street, London, for 17 shillings.

Dr. Eugene Smith read a paper on "Treatment of Keratitis Ulcus with Jequirity," in which he set forth the curative effects of the infusion.

Professor Galezowski, of Paris, has seen many cases of destructive keratitis from the use of jequirity. In five cases he had to enucleate the eye on account of the extensive sloughing of the cornea, followed by pan-ophthalmitis. He uses atropin, eserine, and, in some cases, cauterization, with very strong solution of nitrate of silver. He uses in some cases the warm douche for ten or fifteen minutes at a time twice during the day.

Dr. Richy wants to know if scraping the base of an indolent ulcer of the cornea and the application of iodoform has not been found uniformly successful.

Dr. Dudley S. Reynolds called attention

to the necessity of a more scientific or, at least, a more harmonious method of designating refracting lenses. He does not think any attempt at designating lenses by focal length should be encouraged, as it necessarily leads to confusion. He proposed to return to the old system of optical calculations based upon astronomical refractions, or to adopt a more precise method of designating lenses by the angle of refraction instead of the radius. He thinks, inasmuch as the quadrant of the earth formed the basis of the astronomical unit, we shall simply employ the term 90° to designate the maximum refraction angle. We might designate the radius in degrees instead of by fractions of the quadrant. He pointed out the common asymmetry of the lenses in the trial cases of the best makers, and referred to his improved form of Snellen's phakometre as a satisfactory test of the refraction, the quality of the material used, and the relative accuracy of the grinding of the lens. Adopting the angle of refraction we can take a plain piece of crown glass as the medium and designate any angle of refraction in minutes or degrees, thus producing a precisely accurate series for the alteration of any defective refraction of the eye, so as to preserve the visual angle at five minutes.

It would be far easier to proceed by designating in degrees than by D or by any fraction; for example, instead of $-|\frac{1}{15}$, or 2.5 D, let us write $-|\frac{5^\circ}{1}$.

Professor Landolt objected to the radius being considered without stating the index of refraction of the medium used. He is very favorably impressed by the proposition to designate by the angle of refraction, but fears we are not quite sufficiently prepared for its final adoption in practice.

Dr. S. M. Burnett thinks we can never do without the inch as a means of locating focal distances. We must retain the far and near point for relative calculation of the values of lenses. If we do not use the inch we must use the meter.

Dr. Cross, of Bristol, England, concurred with both Landolt and Reynolds. He admitted the uncertainty of the inch and the meter. He thought the quadrant of the earth sufficiently accurate as a basis, and though not perfectly spherical we should prefer it to the quadrant of a smaller and more perfect sphere. He thinks focal lengths are alone available for purposes of measurement of the relative powers of our lenses. Yet he hopes we may eventually advance to the more scientific method proposed by Reynolds.

Dr. Allyn would never consent to return to so complicated a method as that involved in the fractional divisions of the unit or quadrant.

Dr. J. L. Thompson is utterly indifferent as to which of the prevailing methods he employs. He has lenses graded metrically, and by inches, and takes them as in all respects about equally accurate for practical use. He would not object, however, to a system of designation by angles if it should be brought into general use.

Dr. Edward Jackson read a paper setting forth the importance of adopting the minimum deviation instead of the angle of refraction.

On motion of Professor Landolt, the Section adopted Dr. Jackson's views.

On motion of Dr. Henry Power, the chair appointed the following committee to perfect and report upon this subject at the next Congress: Professor E. Landolt, of Paris; Dr. Edward Jackson; Dr. Swann M. Burnett.

"Ametropia" was the subject of a paper by Dr. Flavel B. Tiffany. He proposes to continue the annual examination of the eyes of the pupils in schools to determine at what age myopia appears in previously emmetropic eyes and at what period of school life those having myopia suffer most active advancement. He has collected some valuable statistics from carefully conducted tests of the refraction of 2,040 school children. He finds females more

liable to changes of refraction in severe study than males.

Dr. Chisolm finds small deviations of refraction more troublesome to the patient than the greater. He more often prescribes 0.25 D than any other glass.

Dr. Burnett thinks that in a majority of cases it will be found 0.50 or 0.25 D.

Dr. Bermann thought daily observation would show that astigmatism of low degree is not so rare as to justify an essay on that subject.

Dr. Tilley called attention to a publication in St. Petersburg, in which it appeared from an exhaustive series of examinations of the refraction of the eyes of children that all of them have hypermetropia until the tenth year of age.

Dr. Young thinks it impracticable to correct low grades of astigmatism.

Dr. Fanny Dickinson reported the case of a schoolboy who had astigmatism equal to 0.25, and under suspended accommodation he invariably selected the same glass. He had sick headache, which yielded to the continued use of the glasses.

Dr. Benjamin J. Baldwin reported that 930 cases of negroes examined yielded 8 per cent of errors of refraction. He feels sure that the influences of civilization promote the occurrence of errors of refraction.

Dr. A. W. Calhoun has found errors of refraction among those negroes only who go to school. As schools multiply, errors of refraction increase. In a large practice he has seen but three cases of glaucoma in negroes.

Dr. Burnett concurs, and thinks the comparative rarity of squint among the negro races is less than formerly.

Dr. A. Blitz confirms the observations of Baldwin, Calhoun, and Burnett as to the immunity of negroes from refraction errors and squint.

Dr. Galezowski thinks astigmatism causes most distressing asthenopia, and he frequently finds glasses unsatisfactory. He finds neuralgia of the supra-orbital nerve,

and sometimes of the dental branches of the fifth pair. He sometimes uses lachrymal injections of tepid water with great relief to the patient.

Dr. Reynolds thought many neurotic cases with astigmatism might be found to have local or reflex causes for the persistent asthenopia which had been spoken of. The real difficulty which he encountered was in getting the patient so fully instructed in the adjustment of his glasses and so well accustomed to look at objects at the proper distance as to have all the advantages of a complete optical correction. He always measures the lenses before permitting their use, but the difficulty of adjustment is greater than it has been supposed.

Dr. H. Gradle has found in low grades of astigmatism that many other causes, such as general neurasthenia and reflex irritation from the nose, in cases of rhinitis, must be looked after in the treatment of headache.

Dr. Leartus Connor has not often found it necessary to correct lower grades of astigmatism than 0.50 D. In extremely rare cases it may be necessary to correct 0.25 D.

Dr. Chisolm thinks educational institutions have caused errors of refraction among the negroes to become very much more common than formerly.

Dr. Erwin has observed 25 per cent of those engaged in the railroad service of the Pennsylvania Company to have astigmatism.

Dr. Henry Power, of London, offered a resolution of thanks to the American members of the Section, and especially the President of the Section, for many courtesies to the foreign delegates and an able and impartial discharge of the duties of the offices held by them.

Profs. Landolt and Galezowski offered words of congratulation to the American members for courtesies and to the President for an able performance of duty. They all spoke highly of the character of the work which had been done, and especially that part contributed by the American members.

OBSTETRICS AND GYNÆCOLOGY.

ANTISEPTIC

RULES FOR

NURSES.

Prof. W. S. Playfair, of King's College Hospital, read an exhaustive paper on *the*

prevention of puerperal fever, to the British Medical Association's section on obstetrics at the Dublin meeting, in which he laid down the following :

(1) Two bottles are supplied to each patient. One contains a solution of per chloride of mercury, of the strength of one part to one thousand of water, tinted with litmus (called the 1 : 1,000 solution), the other carbolyzed oil (1 : 8).

(2) A small basin containing the 1 : 1,000 solution must always stand by the bedside of the patient, and the nurse must thoroughly rinse her hands in it every time she touches the patient in the neighborhood of the genital organs, for washing or any other purpose, before or during labor, or for a week after delivery.

(3) All sponges, vaginal and rectal pipes, catheters, etc., must be dipped in the 1 : 1,000 solution before being used. The surface of slippers, bed-pans, etc., should also be sponged with it.

(4) Vaginal pipes, enema tubes, catheters, etc., should be smeared with the carbolyzed oil before use.

(5) Unless express directions are given to the contrary, the vagina should be sponged twice daily after delivery with warm water, with a sufficient quantity of Condyl's fluid dropped into it to give it a pale pink color.

(6) All soiled linen, diapers, etc., should be immediately removed from the bedroom.

N. B.—These rules are for the protection of the patient from the risk arising from accidental contamination of the hands, sponges, etc. It is therefore hoped that they will be faithfully and minutely adhered to.

There is nothing complex in these rules. The details may be varied considerably as to the form of antiseptic employed. It is the principle of antiseptics more than the

details which is important. I prefer the perchloride of mercury to any other antiseptic, not only because of its acknowledged potency, but because it is bland and unirritating to the skin and capable of being carried in a concentrated form, and the solution made at a moment's notice. Nurses will not use a carbolic lotion, or use it inefficiently, because of its tendency to injure the hands, while I have never known one to object to the mercurial solution. I do not recommend it for vaginal injections after labor, because of a few cases of mercurial poisoning that have been reported to follow its use in this way.

There are a few precautions to be used during the labor for the physician himself:

(1) Before making any examination, or using the antiseptic lotion, he should thoroughly cleanse his hands with soap and water, being specially careful about his nails, under which septic matter may easily lurk.

(2) At an early stage of the labor, the vagina should once be thoroughly syringed with the antiseptic lotion, and the vulva sponged with it.

(3) When the head is distending the perineum, the external genital should again be sponged with the solution.

(4) Cold cream, lard, etc., should not be used for lubricating the fingers, but carbolized oil or vaseline employed instead.

(5) When possible, sanitary towels should be used to receive the lochial discharges in preference to diapers, as they may be burned when soiled. All risk from imperfectly cleansed diapers is thus avoided. I do not think these suggestions impose a greivous burden upon the practitioner who has the welfare of his patient at heart. There are many other points on which I might dwell if time allowed. One which seems particularly important is the duty of satisfying ourselves of the sanitary condition of the house in which our patient is to be. It is but seldom, however, our opinion is asked on this point.

PATHOLOGY AND HYGIENE.

THE SEXUAL
RELATIONS
AS CAUSES
OF UTERINE
DISORDERS.
Conjugal Onanism, and Kindred Sins.
BY
WM. GOODELL, A. M.,
M. D.
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Certain causes of uterine disease there are, which I would gladly leave unnoticed, for it is hard, in acceptable language, even to allude to them. But, so wide-spread are the evils resulting from them, that to pass them by would be a flagrant sin of omission. "Two

things come not back," said the Caliph Omar, "the sped arrow and the spoken word." Deeply impressed by the wisdom of this saying, I shall try to speak on these delicate subjects, as never to regret what I have spoken.

Arguing from a strictly practical and not from a sentimental point of view, but with all reverence, I hold that the love interchanged between man and woman is no mere operation of the mind, no sheer intellectual process. However pure this passion may be, it is needfully two-fold in its nature. It is an alloy, made up, like ourselves, of body and mind; the grosser mould so interfluxed with the more ethereal, that the one finds its most passionate expression in the fruition of the other. Abstract love between the sexes can not, therefore, exist in any other sense than that engendered by blood ties. Forgetful of this absolute law of our being, sentimentalists have judged too harshly of Abelard, and lavished too one-sided a sympathy upon Heloise. Without further comment, the ante-nuptial relations, at least such as custom commonly sanctions in this land—and, I believe, in no other—are, therefore, when prolonged, very disturbing elements to a young girl's health. Long engagements, by keeping up a wearing nervous erethism, are not only recognized, but even classified, by alienists, as one of the causes of insanity in

women. Much more frequently, the nervous exaltation is spent upon the reproductive organs; for there follows an awakening of sense, which is not, as in man, appeased by the distractions of business pursuits. Uterine trouble from this source, any open-eyed physician will over and over again see. Now, it is true that in love affairs the physician must be no meddler; match-making is certainly not his business. But, as a tried and valued friend, as a brother beloved, he can speak out when others may not even hint. Or, when consulted by an anxious mother about symptoms in her daughter, plainly referable to the reproductive organs, he can disclose the cause, and thus be the means of hastening on the cure.

If the caresses of lovers are prejudicial to good health, every like relation between the sexes must be exposed to like dangers. In too many rural districts, and in the lower classes of citizens, such license is tolerated in the social intercourse between the youth of each sex, as must be destructive both to good health and to good morals. But, since it is not to my present purpose to appear as a social reformer, I shall confine my remarks to the hygienic aspect of the subject. The "old folks" are shelved too soon. Young people are left too much to themselves, and thrown too much together. Their social gatherings are too rarely presided over by their mothers or their seniors. As a very natural consequence, their games become coarse, their forfeits immodest, and little by little this freedom from restraint is liable, finally, to degenerate into such gross familiarities as would be improper even between affianced lovers. An unnatural sexual excitement is thus kept up, which must do physical harm. Of the moral harm I say nothing. In this matter, I am plainly at a loss to see how a physician can interfere in any other way than by setting a good example in the order and decorum of his own household. A nimbler wit than mine may work out some better way; if so, his be the credit: I do but throw out hints.

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The excesses of the honey-moon journey, conjoined with its fatigues and its discomforts, are too often the starting-point of uterine disease. Here, again, will the family physician delicately proffer his counsel. In chosen words he can hint at moderation in all things, and suggest the avoidance of the usual exhausting round of travel and sight-seeing. Such words will then, indeed, be words spoken in season. He must, still further, take cognizance of the sexual relations between husband and wife, relations which, when abused, are productive of much mischief. All excess in that direction he will discountenance. Unmastered importunity and too submissive an affection must be met by separate beds, by uncommunicating rooms, and if need be, by strong expostulation. Criminal abortion he must denounce, and that boldly, if he values the health and happiness of his fellow-creatures, and a clear conscience before God and before man.

But there are yet other secret sins which, like the plague of the frogs, creep into our "houses, and bed-chambers, and beds"—sins which, although vile and filthy, concern us as physicians. The wise son of Sirach has laid down the abstract truth, that "the knowledge of wickedness is not wisdom;" and yet, for the correct interpretation of disease, we must intrepidly search out their causes; whether moral or physical, however loathsome or impure they may be. Receive, then, these necessary supplements to your instruction, in the attitude of true students; for to such, the knowledge of immorality can not be immoral.

Early in the practice of your profession you will, I am sorry to say, find out that many of your patients, who should be the heads of large families, are practicing detestable arts to avoid offspring. You will, on the other hand, be approached, perhaps indeed be hard pressed, by husbands, and for the matter of that, by wives also, for some method of congress unattended with the risk of impregnation. You will also be

consulted for the mental and bodily infirmities resulting from these and other sexual sins. You must not, therefore, go out into the world ignorant of these evils, and consequently incompetent to grapple with them. It is, however, so hard a task, to discuss such subjects in acceptable language, that I confess to some squeamishness, and would much rather refer you to some suitable textbooks, were there any. But, unfortunately, there are none on these subjects, although our land is flooded with a prurient literature treating of the conjugal relations. Impudent quacks and men of battered reputations must not be your guides; far better it is for you to learn a new thrust of fence from a friendly foil, than from the stab of a foe.

My purpose is less to discuss the moral obliquity of these secret sins of the community than to show the resulting disorders. Yet I shall not limit myself to the one point of view, for the conjugal relation is two-fold in its nature; it has a moral as well as a physical expression, but so interwoven that it is hardly possible formally to dissociate them. Nor would it be wise for a physician so to do; for who so well as he can determine how far a disturbance in the one will affect the other? Moreover, so irreparable is the moral and physical degradation resulting from these vicious sexual relations, so damaging are they to good health and to good morals, so fatal to national prosperity, that I can not go far astray in assaulting them with every available weapon.

You have all had a religious training, and respect the teachings of the Bible; let us see what light they throw upon the conjugal relation. The first words addressed by God to our first parents conveyed the following blessing and command: "And God blessed them, and God said unto them, be fruitful, and multiply, and replenish the earth." The same blessing and the same command, in precisely the same words, were twice given to Noah. Abraham and Ishmael received the same blessing, and so did Isaac thrice in

one chapter. Laban's household sent away their sister Rebekah with the same blessing. "Give me children, or else I die," was the cry of Rachael. Jacob called his offspring "the children which God hath graciously given thy servant;" and the same patriarch, when a-dying, raised himself upon his staff in order with greater solemnity to invoke upon his beloved son Joseph "blessings of the breasts and of the womb." The Psalmist declares that "children are an heritage of the Lord; and the fruit of the womb is his reward;" while the curse pronounced upon idolaters by an indignant prophet is, "Give them a miscarrying womb and dry breasts." In Exodus we read, if a man "take him another wife, her food, her raiment, and her duty of marriage, shall he not diminish." Throughout the Old Testament, you will find that fruitfulness was regarded by Jew and Gentile as the greatest of earthly blessings, and that, as such, it was the reward of the righteous, and, as such, it was withheld from the wicked. How a profanation of this blessing was regarded by God, you all know from the history of Onan, who was slain for disobeying a Divine command by resorting to one of the "preventive measures" in vogue at the present day. Again, in the New Testament we find St. Paul giving the following advice to the married Christians at Corinth: "Defraud ye not one the other, . . . that Satan tempt you not for your incontinency. Let the husband render unto the wife due benevolence; and likewise also the wife unto the husband," etc. I have not the time to quote all that the apostle says upon the subject; but, mind you, this advice was given in troublous and persecuting times—times in which the temptation was great to prevent the increase of families—times to which the words of our Saviour were especially applicable: "Woe unto them who are with child, and to them that give suck in those days."

To these Scriptural precepts and blessings you may perhaps object, that they were designed for special purposes, and that, as

such, they can not concern the present generation of men. While unwilling to admit this, I reply that there is a natural religion as well as a revealed religion: the one, God's book; the other, Nature's—a "Second Bible," as Bacon happily terms it. You have heard what the one enjoins; now listen to the teachings of the other. Let me turn to our Case-Book and read out the history of one of our clinical patients. Some of you have seen her in my private room, but, for obvious reasons, I have not brought her before the assembled class.

A. B., aged thirty, married ten years ago, has had two children, one of them dying shortly after birth. Six years ago she and her husband came to this country and opened a small store. She was at that time in robust health, "very happy," and cheerfully waited upon their customers. For no assignable reason, her health soon began to fail, and six weeks ago she came for advice in a truly pitiable plight. To use her own language, she was "very weak and miserable;" "crying all the time;" "can not remember any thing for ten minutes;" forgets the price of the goods in her husband's store; was "constantly mislaying needful articles, and making mistakes in making change." She was "very suspicious," fancied "that everybody was against her and talking about her," and confessed to being extremely jealous of her husband. In addition to these mental disturbances, she eructates large quantities of wind, is obstinately costive, has violent palpitations of the heart, and can not go up one flight of stairs without getting out of breath. She often staggers, loses consciousness, and sometimes falls from vertigo; is annoyed by a persistent *globus hystericus*, and has no appetite whatever. The catamenia appear every three weeks, are abundant, but unaccompanied with pain. She has, however, a constant pain in the sacral and in the left infra-mammary region; also a frequent desire to pass water, and much "bearing-down" of all the pelvic organs.

Without wearying you with every detail, in one word, the subjective symptoms of uterine disease, which she presented, were more numerous and more marked than I had ever before seen in one patient. In making a vaginal examination—to which she reluctantly submitted—I was struck with the excessive sensitiveness of her tissues, and with the uncontrollable excitement under which she labored—symptoms hitherto in my experience limited to unmarried women addicted to self-abuse. I found the vagina crimson and hot, the womb tender to the touch, intensely congested, somewhat prolapsed, and in the first degree of retroflexion. The sound, passing through a patulous os internum, caused much pain at the fundus, and a slight hemorrhage upon its withdrawal. The os externum was surrounded by a collar of erosion, and plugged with the characteristic glairy secretion. Finally, she flinched from any pressure, however light, over each ovarian region. The significance of these symptoms I explained to her, but I need not to you.

She then took me aside, and, unsolicited, told me her history. Being in straitened circumstances upon their arrival in this country, and withal anxious to lay by money, she and her husband agreed to have no more children. With this view, she had submitted to the following fraudulent and one-sided expedient: at the height of the orgasm, the husband withdraws from her person, and thus sins as Onan sinned. For six years, such incomplete coitions had been practiced, usually as often as five times, and never less frequently than three times a week. She had at first attributed her ill health to change of climate, but, quite recently, had begun to suspect its true cause, from an unexpected improvement in all her symptoms, during the casual absence of her husband on business.

Prompted by this suspicion, she came to consult me as to its correctness, and actually, in case it was confirmed, to learn from me some other preventive method of con-

gress. I explained to her the sinfulness of her conduct, and urged her to receive the approaches of her husband in a natural way, as otherwise nothing could be done for her. This, however, she flatly refused to do, saying she would much prefer a separation, or even a divorce from him. Upon inquiry, I learned that her "husband was not the man he used to be;" that he was morose and dyspeptic, complaining much of general weakness and loss of appetite. Two weeks later, she came with much glee to say that by a mutual agreement this incomplete act of coition was in future to be limited to twice a week, and that she was now ready for treatment—whereupon I refused to have any thing more to do with her; and I have not seen her since.

You have heard, gentlemen, this sad history—the history of a woman whose health is shattered, whose morals are perverted, whose mind is verging toward insanity. Now, what physical law of her being, what moral obligation has been broken? Why has Nature been so resentful, and why these fierce reprisals? These are questions which press for an answer.

The sexual instinct has been given to man for the perpetuation of his species; but, in order to refine this gift and to set limits to its abuse, it has been wisely ordered that a purely intellectual quality—that of love—should find its most passionate expression in the gratification of this instinct. Dissociate the one from the other, and man sinks below the level of the brute. Destroy the reciprocity of the union, and marriage is no longer an equal partnership, but a sensual usurpation on the one side, and a loathing submission on the other. Consider the moral effects of such shameful maneuvers; wedlock lapses into licentiousness; the wife is degraded into a mistress; love and affection change into aversion and hate. Without suffering some penalty, man can not disturb the conditions of his well-being or trespass beyond its limitations. Let him traverse her physical laws, and Nature exacts a for-

feit; dare he violate his moral obligations, an offended Deity stands ready to avenge them. That this law is immutable, witness, from the history read to you, the estrangement between husband and wife; witness his ill health and ill temper, and the wreck of body and of mind to which she has been reduced.

The husband suffers mentally, because no *man* can behave in so unmanly a way without a keen sense of self-abasement, without being stung by the chastisement of remorse. Dishonor the body, the temple of the soul, and you dishonor the soul. Again, by this cowardly recoil, his enjoyment in the act is so blunted that he is tempted to seek elsewhere for those pleasures which are denied him at home. Further, he suffers physically, because, although he passes through the crisis of the sexual act and completes it in that sense, yet, owing to his withdrawal from the person of his wife, just before the moment of ejaculation, this acme of the orgasm, by the lack of the normal and needful adjuvant—viz., the rugous and constringing vagina—is not sufficiently prolonged to wholly empty the *vasa deferentia*. Enough of the semen remains behind to tease his organs and to kindle in him desires too importunate to tolerate any great self-control. He is thus goaded on to such sexual excesses as no brain nor brawn can long support; for a constant drain on the life-giving fluid implies a constant expenditure of nerve-force. Early exhaustion and premature decrepitude will inevitably ensue if this practice of "conjugal onanism" be persisted in. Nor is this name a misnomer; for there is no essential difference between this habit and that of masturbation. Both injure in precisely the same way, and for precisely the same reasons. It does, indeed, seem to be the law of Nature that man must suffer the punishment of the onanist if he parts with the "seed of another life" in any other way than in that by which it tends to become fruitful.

The wife suffers the most, because she

both sins and is sinned against. She sins, because she shirks those responsibilities for which she was created. She is sinned against because she is defrauded of her rights. Lawful congress, completely performed, so far satisfies an imperious instinct that attendant local congestions are at once relieved, and to great nervous excitement succeeds a calm repose of body and mind. On the other hand, conjugal onanism provokes in her desires which keenly solicit that very gratification which is denied by the nature of the act. The excessive stimulation of the whole reproductive apparatus remains unappeased. A nervous super-excitation continues, which keeps up, as in our patient, a sexual excitement and a hyperesthesia of the parts. By forfeiting her conjugal rights, she does not reach that timely conjuncture which loosens the tension of the coarctative muscles of her erectile tissues. Hence, the congestive orgasm of the vagina, womb, oviducts, and of the ovaries, does not at once pass away, but persists for some time—perhaps is not wholly effaced before another incomplete coition brings a fresh installment. Thus arise engorgements, erosions, and displacements of the womb, and inflammation of its appendages, accompanied, of course, by all those protean mental and physical manifestations which I have so often pointed out to you. She takes distorted views of life and of the marriage relation, and harbors resentment against her husband as the author of all her ills.

But we have not yet done with the train of evils. The uterine, ovarian, and vaginal plexus of veins inosculate freely with the hemorrhoidal vessels, and consequently with the *venæ portarum*. Hence, the turgescence of the one group of blood-vessels leads to the engorgement of the other, and the persistent congestion of the intra-pelvic veins determines portal obstruction and conversely. The great vascularity, and the erectile structure of the reproductive organs, favor this turgescence. As a consequence, functional derangements of the liver are

commonly associated with uterine disease. No gynecologist has failed to observe the alternate relation of cause and effect between these two conditions. To this interdependence may we refer the costiveness, the vertigo, the loss of appetite, the dyspeptic melancholy, and the suspicious nature of our patient.

Again—for the ill effects of such practices accumulate—the very barrenness aimed at by these criminal expedients is in itself a source of disease. In sterile women the absence of pregnancy and suckling prevents a break in the constantly-recurring catamenia, and the physiological congestion of the womb augmented by the sexual congestions are, by ceaseless repetition, liable to become pathological. Add to this the unrelieved congestions arising from incomplete intercourse, and a prolific source of uterine and of hepatic disorders is at once manifest.

I wish, in this relation, to call your attention to another source of sexual trouble for which your advice will be sought. Either from undue ardor on the part of the husband, or from the too frigid nature of the wife, the sexual crisis with him is over before hers is reached. Such misadventures are productive not only of unhappiness, but also of disease. Here, as in conjugal onanism, the female reproductive organs are kept in a state of congestion, which is followed by like ill results, the difference being only in degree, and not in kind. For this lack of reciprocation—not, however, necessarily fatal to impregnation—you will counsel to the husband the practice of some self-denial as regards the frequency of congress, and greater self-control during the act, together with a recourse to such promptings as a warm and an honorable affection may suggest.

But, to return from a digression, there are other artifices—nay, even equipments borrowed from the brothel—for the purpose of avoiding conception, which may well alarm publicists and statesmen. For, vile as they are, they have received the open sanction

of those English political economists, who forget that crime and vice and human suffering in their land are due less to "overpopulation and large families" than to absenteeism, to the laws of primogeniture and of entail, to the grasping avarice of the rich, and to the intemperance, ignorance, and shiftlessness of the poor. All these expedients operate, by directly preventing the access of the spermatozoa to the uterine cavity, by destroying them, or by washing them away; but they are all hurtful equally to mind and to body. If it is hazardous for an overheated stomach to receive a glass of water—its natural and accustomed beverage—how much more will it be to deluge the over-congested womb with such foreign fluids as simple or astringent injections! On the other hand, those mechanical contrivances for limiting the range of the spermatozoa so blunt the pleasure as to lead to unfaithfulness or to their disuse. Moreover, in common with other teachers, I am old-fashioned enough to believe that pregnancy is a needful condition to healthful and happy marriages, and further, that coition is innocuous only when complete in both husband and wife, and when the germinal fluid bathes her reproductive organs. It is not always possible to trace the relation between cause and effect; some link in the chain of sequences often eludes our search. The *modus operandi* of many of our most common drugs is not known, and yet our confidence in them is not shaken, because the counter-weight of our experience is greater. Therefore, for no other reason than that the common experience sanctions this postulate, I believe that the semen itself, aided of course by the general relaxation following the crisis, has a special property of allaying the congestive orgasm and the vascular turgescence of the venereal excitement. Be the mode what it may, at any rate so much disorganization of uterine structure takes place in those women who have kept themselves sterile that they are rarely free from some womb disorder; and when, as they

advance in life, they yearn to have children, they find to their dismay that they can not conceive. Often and often have I been begged by childless women, now longing to become mothers, to undo the mischief caused by such practices.

For the limitation of families, some conscientious political economists recommend absolute abstinence. But, if the "nervous erethism" of long engagements is assigned by alienists as a common cause of insanity, and by physicians as a frequent source of uterine disturbance, what derangement of body and of mind may not spring from this forced continence! Perhaps, however, we are wasting words on impossibilities. There is a wide-spread delusion, as old as the art of medicine itself, that intercourse, after the tenth day following the cessation of the menses, is not attended with the risk of impregnation. But ovulation is not necessarily menstruation; and he who constructs domestic time-tables or trusts to his almanac will find that accidents can happen in the best-regulated family. If he protract the time of intercourse to a still later period after menstruation, he is liable to inseminate an ovum near the os uteri, and thereby produce placenta previa. If he perform the act during menstruation, he is likely to bring about a pelvic hemocele, a pelvic peritonitis, or even an extra-uterine pregnancy. Over-lactation, to avoid the dreaded accident of motherhood, is not only a very fruitful source of disease in women, but it very seriously compromises the health of the child; for it causes rachitis, cholera infantum, and the wasting diseases of children. On the other hand, if the mother, when pregnant, continues to nurse her child, in order to bring on an abortion, the child is sure to suffer from the deteriorated milk; and the mother from the double demand upon her vital energies.

In a late discussion before the British Medical Association, in which some of the foremost men of England took part, it was the unanimous verdict, that over-breeding

does not produce ill health so much as efforts to prevent conception. (*British Medical Journal*, Aug. 31, 1878.) The venerable West accuses "the imperfect performance" of sexual intercourse as one of the frequent causes of uterine engorgement, and of hypertrophy of the cervix. (Lectures on Diseases of Women, p. 80.) I have seen four very remarkable cases of great turgidity of the womb, accompanied by excessive sensitiveness of the cervix, which were due to such practices. Bergeret records nine cases of acute metritis, with two deaths.

Like disorders, from like causes, I have so often seen that, when called to a case of pelvic inflammation, I take it for granted that means have been adopted for preventing conception.

"In man," as Barnes very forcibly shows, "the ejaculation of the semen ends his physiological duties; but a woman, to complete the cycle of reproduction, must pass through conception, gestation, and parturition." Hence, a disregard for these requirements of her very nature will assuredly predispose to uterine disorders. Marriage, without children, acts like a slow poison on the constitution of most women.

But there is yet another reason, and a very strong moral one, why the wife should not remain childless. There can be no question that the blood of the father mingles with that of the mother through the medium of the child in utero. Hence, the transmission of blood-diseases from husband to wife. Hence the indelible impressions made upon a wife by the father of her offspring—impressions, both mental and physical, which, by character or by resemblance, she often transmits to her children by a second husband. Now, as Dr. J. P. Chesney suggests (*Medical and Surgical Reporter*, Dec. 7, 1872), may not this account for the similarity of character and identity of tastes, and, indeed, for that wonderful personal resemblance which sometimes develop between husband and wife? And does not

this requisite alone fulfill the Divine interpretation of marriage, that "they are no more twain, but one flesh?"

There are, in fact, no harmless or available means for thwarting nature's plain intention; for, if they should not happen to injure the body, they assuredly will the mind. How immoral must be the effect when husband and wife meet, not "to endear each other"—as Jeremy Taylor quaintly puts it—but to adjust accoutrements, to compound antidotes, and to consummate, with prearranged precautions and cold-blooded calculations, a union which, for its perfect mental and physical fruition, should be spontaneous and unrestrained! All these artifices soil the purity of thought, and degrade marriage into a carnal compact which regards alone the needs of the flesh.

Such, then, are my views upon these so-called "misery checks" and "common-sense measures;" and I feel that they can not be gainsaid. I dare any political economist to show me one innocuous expedient whereby conception can be avoided. I challenge him to name a single preventive plan which will not do damage either to good health or to good morals. Even natural sterility is a curse. Show me a house without children, and, ten to one, you show me an abode dreary in its loneliness, disturbed by jealousy or by estrangement, distasteful from wayward caprice or from unlovable eccentricity. Depend upon it, gentlemen, there are no thornless by-paths by which man can skulk from his moral and physical obligations; no safe stratagems by which he can balk God's first blessing and first command. Therefore, as hygienists, if not as moralists; as physicians, if not as patriots; as guardians of the public health, if not as philanthropists, I charge you to frown upon such practices and take a bold stand against them. Else, see to it that in the end you are not held to a strict account for the knowledge you have this day gained.

BOOKS AND PERIODICALS.

SURGERY, ITS
THEORY AND
PRACTICE.

BY

WM. J. WALSHAM,
F. R. C. S.*Assistant Surgeon to St.
Bartholemew's Hospital,
Surgeon in charge of the
Orthopedic Department
and Demonstrator of
the Practice of Sur-
gery at St. Bar-
tholemew's Hos-
pital, etc.*London. With 236 illustra-
tions. Philadelphia: Pa.
Blackiston, Son & Co.
1887. Duodecimo.
Cloth. 655 pages.
Three dollars.

In his preface Dr. Walsham tells us his work is designed to aid the student in gaining a general insight into the theory and practice of surgery, while he is yet engaged in practical work in the wards of the hospital. While endeavoring to present his subject in the most brief and concise manner possible, he has endeavored, at the

same time, not to lose sight of the principles that underlie the science and to give the guiding indications in the practice of the art. No account is taken of the eye and ear, and the work is, in fact, designed rather to supplement the ordinary manuals of surgery than to supplant them. Acknowledgment is made to the works of Agnew, Billroth, Bryant, Erichsen, Holmes, Pirrie, and to various articles in Holmes' System of Surgery, Heath's Dictionary of Surgery, and Treves Manual of Surgery. Inflammation is the subject first discussed. The author begins by adopting Burdon Sanderson's definition and proceeds at once to the discussion of the appearance of an inflamed part and its general features. He deals practically with his subject, and exhibits a technical familiarity which shows him to be a teacher of experience. It is one thing to have a good and clear understanding of a subject, but quite another thing to be able to present that subject in all its essential details in a brief and concise manner. Dr. Walsham seems to have the happy faculty of making himself understood. While he is a good teacher of the theory, he appears a timid operator. In the so-called "compound ganglion," he thinks, "an operation should not be undertaken unless necessitated by loss of

power in the wrist or fingers, and not even then until an attempt has been made to cure it by pressure, strapping, and counter irritation. In cases of rupture of an abdominal viscus, it is stated that perfect rest and the administration of opium or sub-cutaneous injections of morphia are requisite. In rupture of the liver, spleen or kidney, ice may be employed over the part, and gallic acid or ergot given internally to restrain the hemorrhage. In suitable cases the abdomen may be opened, the rent in the intestines sewn up and the peritoneal cavity sponged out with antiseptic solutions." Rules or principles of diagnosis governing the selection of these suitable cases for abdominal section are not sufficiently clear. It is now a pretty well established fact that surgeons should, in all cases of internal injury of a serious nature, lay open the abdomen for diagnostic purposes, and as a necessary part of the treatment, in case of a breach of continuity in any of the internal structures. It is hardly in accordance with the most recent advances in surgery to await evidences of injury to the viscera in case of a penetrating wound of the abdomen, or to close the external wound until it is reasonably certain that no internal hemorrhage and no solution of continuity of any internal structure has taken place. Says Dr. Walsham: "If the coats of the intestine are much lacerated, it will be a question whether the lacerated portion should be removed with a wedge-shaped piece of the mesentery and the two ends united, or whether it should be stitched to the abdominal parietes and an artificial anus made." Dr. H. H. Mudd, of St. Louis, does away with all questions of doubt in such premises. In fact, it would be difficult to find many surgeons willing to stitch lacerated intestinal tissues when it is so easy to cut out and cast away the lacerated and contused parts, thus securing freshly cut surfaces of sound tissue for stitching, in the hope of primary union. It is just such questions as these which lead to the conclusion that Dr. Walsham is a timid operator. There is a

strong tendency in the mind of this author to rely rather upon opium for the relief of pain than to search out and attempt to remove the cause of that pain. Opium is at best a dangerous drug. It in no way tends to curtail a peritoneal inflammation, but simply renders the patient less conscious of his misery, and at the same time less able to support those recuperative processes which must necessarily be set up in the course of any thing like recovery from such a grave accident. Opium in peritonitis may be compared to the locking of one's doors when a fire breaks out in the house. The gathering smoke will suffocate the imprisoned victim, and presently the flames break out in overwhelming force and fury; the whole structure is consumed. Peritonitis which does not yield to turpentine stupes and saline aperients, should be met with the knife, because it means suppuration. Suppuration in the peritoneum can be safely treated in no other way than by the prompt and thorough evacuation of the disintegrating matters. There are not many kinds of injury attended by such severe pain as that opium may take the place of the mal-applications of general stimulants, counter-irritation, rest and careful feeding. With the slight faults of timidity, and an overweening fondness for opium, passed over, we may fairly say the work meets a real want, and must become the companion of both students and young practitioners.

PUBLIC
HEALTH
CONFERENCE.

Proceedings, Addresses, and Discussions. Louisville, May 24, and 25, 1887. Under the auspices of the State Board of Health of Kentucky. Frankfort: John D. Woods, Public Printer. 1887.

the joint efforts of the special committees from each of the local medical societies in Louisville, the Board of Trade, the Young Mens' Commercial Club, the School Board, the City Council, the Secretary of the State

This is an octavo pamphlet of 136 pages. It contains much valuable matter, which was considered by a conference of physicians and citizens generally, organized by

Board of Health and other invited participants.

Mr. R. T. Scowden, the City Engineer, contributes the first essay, which treats of sewerage in its relations to public health. Mr. Scowden does not hesitate to point out deficiencies in our own system. He concludes his essay with the suggestion that, if constitutional, the State Legislature should require that systems of street grades, sewers and public water supply, shall be planned beforehand, and duly considered before granting town and city charters. In this way every community will be guarded against the difficulties and dangers which are encountered in old communities from the errors and carelessness which are committed by pioneer authorities, and which cause heavy and unnecessary outlays, perplexing litigation and engineering to remedy.

The next essay is by Dr. J. B. Marvin on the subject of water. Dr. Marvin starts out with the assertion that pure water, pure air, wholesome, unadulterated food, constitute the tripod upon which rests the *mens sana in corpore sano*. Dr. Marvin then proceeds with his subject, in the course of which he pointed out the danger from using the water from large wells in cities. In the course of the discussion which followed, the Hon. Laf. Joseph, a member of the Municipal Council, and Dr. William H. Galt, health officer of the city, thought it very bad policy to introduce for discussion any thing connected with the defective drainage or contamination of the water supply in Louisville. Dr. Galt pointed to the good health of the city, as evidenced by the small mortuary returns, while Mr. Joseph said the pumps were to be especially guarded by the Council as a safeguard to the people against extortion in the rates charged by the water company, and he felt it unfortunate that any criticism should appear concerning the city government in such a conference. In closing the discussion, Dr. Marvin thought it would be far wiser policy to remove the danger to the

public health by closing up the wells in the city, which have been the means of communicating typhoid fever to large numbers of our citizens, and rely upon the supply of the water company, which is, for all practical purposes, entirely safe and a most excellent water.

Rabbi Adolph Moses enlightened the conference with a learned dissertation on cremation as a sanitary measure.

The subject of soils as natural filters was presented by Maj. William J. Davis, Secretary of the Louisville School Board. Major Davis is quite an accomplished geologist, and illustrated his subject with diagrams. He showed that the system of public wells in Louisville penetrated the soil, a thin stratum of clay, a layer of fine gravel and sand, and a coarser gravel below; when at about thirty-five feet, a subterranean lake is reached, occupying a basin of limestone; that the watershed upon which this basin is dependent for its supply is about two and a half by three miles, almost entirely covered by the city of Louisville. The system of sewerage in Louisville, though very excellent in extent and in its plan of arrangement, is not employed by a majority of the inhabitants, there being no law compelling persons to connect their houses with the public sewers. Therefore human excrement is disposed of, for the most part, by a system of vaults that penetrate the bed of coarse gravel, through which the deposited matters flow away into the subterranean lake, from which the pumps bring it up for drinking and other purposes. It is estimated by the City Engineer that about forty of these vaults are to be found upon every block of the city, corresponding to one of the public wells. The proximity of these vaults to the public wells is, in some instances, dangerously close, while it would appear that a brief period of time only shall suffice to endanger the entire body of water in the subterranean lake; and, therefore, make all the public wells in the city unsafe. There are many other excellent essays in this publication, notably the

paper by Prof. J. M. Clemens, on the typhoid fever in Louisville; and Miss Kate Palmer, of the High School, on the question of Sanitation in Public Schools.

THE TEXAS COURIER RECORD OF MEDICINE.

EDITED BY
S. D. THRUSTON, M. D.
AND
H. K. LEAKE, M. D.

DALLAS, TEXAS.

Double column. Octavo.
Forty pages. Monthly. Two
dollars. W. B. Brooks, M.
D., business manager.

This sprightly representative of the medical profession of the lone star State is indeed regenerated—it has been born again. It is now animated by the better spirit of intelligence, dignity and refinement, of the profession of Texas. It is handsome, full of vitality and a credit alike to the enterprise of its publishers and the distinguished ability of its editors. We have come to look upon it as a monthly messenger of peace and good will, the representative of the real progress of the working element of the profession.

THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES.

EDITED BY
I. MINNISHAYS, A. M.,
M. D.,

PHILADELPHIA.
AND

MALCOM MORRIS, M.
R. C. S.,
LONDON.

Published simultaneously
in Philadelphia and London.
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year.

In the October number of this, the representative journal of American medicine for the past sixty-eight years, it is announced that a change both in the frequency of issue and the subscription price will be made, beginning with January, 1888. It is to be a monthly, and the subscription price is to be four dollars per annum. No change is to be made either in

the form, size, or appearance, except, perhaps, in the total amount of matter published for the year. The monthly issues will be smaller than the quarterly, but the total amount of matter for the year will be somewhat increased. A larger space is to

be devoted to original articles, which are to be somewhat shorter than at present. The well known enterprise of the publishers and the experience of the editors, ensure to the profession the highest order of excellence, both in the mechanical execution and the editorial ability with which the new form of the journal is to be edited. It can not be long before our metropolitan cities must publish daily medical newspapers. Twenty years ago the half yearly and quarterly magazines were numerous. The monthlies were surpassed in frequency of publication by not more than two or three weeklies. Now the half yearly and quarterly publications have almost entirely disappeared, while the weeklies have greatly multiplied, and the monthlies have increased almost beyond our capacity for enumeration. Verily the medical profession advances in the foremost ranks of those civilizing and enlightening influences which broaden the usefulness of man and make us all brothers indeed.

ARCHIVES OF GYNECOLOGY.	Archives of Gynecology, by Dr. E. W. Cushing, of Boston, is to appear monthly, at two dollars per annum for the first year, and three dollars after that. Dr. Cushing has made a creditable start in the field of journalism, and it is to be hoped he will be able to maintain the high position he has taken. It is difficult to say what may be the outcome of such a venture. There can be little doubt, however, that the amount of advertising patronage which the Archives exhibits in its first issue will not be sufficient with any thing like an ordinary subscription list to continue the illustration of original articles by copper-plate etchings. The Archives of Gynecology is well printed, on good paper, and presents a handsome appearance. It has our best wishes for a long and prosperous career.
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The St. Louis Weekly Review is love-sick, and hence the wit and humor department is closed for repairs.

CORRESPONDENCE AND SOCIETIES.

LONDON LETTER. By our regular correspondent, ALFRED S. GUBB, L. R. C. P., M. R. C. S. LONDON.	The English members of the Congress at Washington naturally have the ear of the medical public, fresh as they are from the scene of action. Whatever opinions may be entertained of the scientific value of the papers, all are unanimous in testifying to the talent of their American hosts as entertainers. The best report of the Congress is beyond dispute that given by the <i>Lancet</i> , the proprietors of which must have spent thousands of dollars in providing the lengthy telegraphic reports which they gave their readers. On the whole the press have given a very favorable report of the Congress. That it lost in eclat by the abstention of certain well known men no one would seek to deny, but every credit is due to the energetic men who, in spite of what to many would have seemed insurmountable obstacles, succeeded in carrying through so extensive an undertaking with credit to themselves and comfort to their guests. The hope is freely expressed that the unfortunate dissensions which at one time threatened to wreck the Congress may now be promptly buried in oblivion in the interest of the dissentients and of the progress of medical science.
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The first of October in England is a solemn day in medical schools. It marks the opening of the winter session, and is celebrated by the delivery of the customary introductory addresses. Although it is difficult, and even impossible to impart much novelty into such rhetorical displays, they have an intrinsic interest of their own, marking as they do the initial step of the medical career. Just now the changes which appear imminent in the system of granting degrees in London naturally occupy a foremost place. If one or the other of the schemes comes to pass, a step will have been achieved toward the abolition of the

present chaotic confusion of licenses, memberships, and what not which at present render English qualifications incomprehensible and even ridiculous. We shall, under the happiest circumstances, be still far from that simplification of degrees which obtains in every country but our own. While on the subject of introductory addresses I would like to call the attention of your readers to a very interesting publication of the addresses and essays of the lamented Dr. Moxon, of Guy's Hospital, published under the title of "Pilourens Senilis." Dr. Moxon was an exceedingly genial and sarcastic gentleman, and his utterances were characterized by a quaint humor peculiarly his own.

Notwithstanding the favorable reports of two successive committees of investigation, M. Pasteur's system of preventive of inoculation is still far from meeting with acceptance. There have been several deaths of patients treated by him, and the failures are rendered the more significant by the fact that where more than one person was bitten by the same animal those who were treated died, while the others, so far, have escaped.

The prevailing epidemic of scarlet fever in London, which has taken on extensive proportions, has brought once more into evidence the absurdly complicated system by which the health matters of this vast city are managed. Taken in connection with the late discoveries (?) in reference to the communicability of scarlet fever by the milk of diseased cows, skeptics have been poking fun at the investigators to whose patient labors the discoveries are due, and have proposed as the problem of the day "*cherchez le cow.*" I need scarcely remark that even if scarlatina may sometimes be traced to infection from this source, nobody pretends that it is the only or even the principal agent of dissemination. The disease is characterized by great benignity and is singularly erratic in its distribution.

Under the medical act passed last year the General Medical Council is empowered

to admit to registration the holders of foreign diplomas and degrees at their discretion. The consequence is that a certain fear has been manifested in the profession lest the holders of certain American degrees should thus be granted a legal right to practice in this country. The fear, I imagine, is groundless; nor need American susceptibilities be wounded if the Council, in the exercise of their discretion, decline to accord an *ad eundem*. Holders of American degrees are admitted without difficulty to a probatory examination at most of our examining boards, and if they can show that they are in possession of a fair knowledge of their profession they at once obtain a legal and professional status. This is only fair, and can only prove an obstacle to men who are not an honor to the profession in their own country and would not be likely to prove an acquisition here.

There are symptoms here of an intention to enter a practical protest against the unrestricted sale of "patent medicines," and if only the Irish imbroglio can be conjured to one side and time left for the consideration of home requirements, it is quite possible that a drastic reform may be brought about in this direction. It is obviously absurd to prohibit the sale of morphia or chloroform under their true names while their sale is not interfered with when dubbed by some fancy names and sold at twice or three times their value.

MISSISSIPPI
VALLEY MEDICAL
ASSOCIATION.

The next annual meeting of this society will be held at St. Louis, Mo., in September, 1888. It is pre-eminently a working society, and it may be fairly assumed the next meeting will be the largest yet held. The late president, Dr. Isaac N. Love, of St. Louis, is chairman of the committee of arrangements. He anticipates every possible emergency, and is prepared to meet it. Write him for particulars concerning the next meeting.

PROGRESS

A MEDICAL MAGAZINE. ISSUED MONTHLY

DUDLEY S. REYNOLDS, A. M., M. D., EDITOR.

D. W. RAYMOND, BUSINESS MANAGER.

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THE NINTH INTERNATIONAL MEDICAL CONGRESS.

It is amusing to observe the disposition of the different journalists toward the Congress. Those who

were present unanimously concur in the opinion that it was successful in an eminent degree; that it settled down at once to active and legitimate work, the nature of which has been briefly stated in the carefully prepared reports of the various sections published in the *New York Medical Record* and in the daily issues of the *Medical Register*. A daily newspaper, of folio, double-column form, containing twenty-four pages, devoted exclusively to technical, professional matter, was an enterprise of magnitude of an extraordinary character, and which of itself betokened an extraordinary event in the history of medical assemblies. That some persons were not satisfied with the work done by the Committee of Arrangements is but natural. It would be impossible to satisfy a very large number of persons in a matter of this kind. The committee, however, did provide meeting places for the general sessions of the Congress and for the various sections. It did provide entertainments, varied in character, and so extensive as to permit every member of the Congress to enjoy himself in more ways than one upon every evening during the entire

session. The entertainments were varied in character, from social receptions in private houses, public banquets, and free garden parties, to steamboat and railway excursions; and surely there could be no room for complaint upon the part of any modest member of the Congress who attended to take part in the legitimate work of the meetings. We take it, therefore, as but natural that some shall complain and some shall appear extravagant in their praises. There can be little doubt that many papers were read and discussed in the sections which were not altogether startling in the original nature of the matters presented.

It may be that some of the papers were scarcely important enough to justify the time which was given to them. It must, however, be admitted there were many others embodying the results of original experiment and clinical research of great value. The general addresses were a fair average of their kind. The work of the sections, it may be fairly assumed, will, when published, present quite as creditable a showing as that done at similar meetings on previous occasions. Taken then altogether, the Congress marks an important epoch in the history of American medicine. It is an event which will not be forgotten for a generation at least.

That Dr. Billings closed the library of the Surgeon General's office during the sessions of the Congress, was no ground for public scandal. Surely the persons attending the International Congress had no time to go about sight-seeing, and a great deal less time to be wandering through so great a library, and that miles away from the place of meetings of the sections, in which it is presumed every member of the Congress must at least take daily interest. That the chairman of the Committee of Arrangements permitted the Marine Band to play at the annual picnic of the Trimmers and Cutters of the Baltimore Tailors' Union was not sufficient to justify any public mention. A medical congress does not need a marine band. That

Dr. Durante sought the opportunity of advertising himself to the world as a disappointed candidate for a prominent place in the Congress, and that Dr. Murphy, of Dublin, who had never edited any thing in his life, or written any thing known to the profession in this country, should have felt insulted because he was not invited to the editorial banquet, are matters common enough, in fact, to that class of people; and there are some such in every very large assembly. Let us be men, above such quibbling; let us consider simply that which is important, and that which is essential and part of the legitimate work of the Congress, in any attempt at criticising it, and there shall be less discrepancy of opinion among the brethren of the press.

In Louisville it was stated in the *Courier-Journal* that certain members of the profession here would attend the Congress, or had already gone to Washington for that purpose. One member, who felt that the Congress could not assemble without his presence—or, at least, he seemed to feel so—published a card, stating that it had been rumored in the community that he would attend the Congress, but that he would do no such thing. This is simply an amusing incident of the childish disposition of a man who is old enough to know better. It is absurd to suppose that in any international gathering of the medical profession, any particular set of men should be prominent at each succeeding triennial session, taking a conspicuous part in the various sections. The very nature of an international assembly of scientific men forbids such an occurrence. There must, at each Congress, occurring as they do in various countries, be prominently engaged in the sections a different set of men; and if, when we go to Berlin, Prof. Schleichhaut should not be present and take part in the meetings, no material damage to humanity shall result. If, perchance Bismarck himself shall conclude not to be present at the inaugural ceremony, it affords no just ground to suppose the officers

will not be able to discharge their various duties. It does not follow that the Congress would be less successful in a scientific point of view; and if it has any value at all, it must be in the work done in the sections; and it is never to be a question who was not present in any scientific assembly, and it is unfair to make such a criticism.

It is conceded that twenty-eight hundred members were registered and took part in the Congress at Washington. Surely, so far as numbers go, this was enough. Now, if the work done in the sections was creditable—and we maintain that it was—it makes no difference as to its results—whether Dr. Jacobi, or Dr. Agnew, or Dr. Bartholow were present or absent. The Congress met, the various sections held their daily sessions, and adjourned at the appointed time; the character of the work done has been pronounced creditable; it was eminently satisfactory to those present in the sections; then the Congress was necessarily successful. How long the results of any of the labors done at this meeting will live, time alone can tell.

MEDICAL

SOCIETIES.

We have often called attention to the fact that the most active practitioners, the most industrious and untiring experimenters, are the most active society men. They are the life and spirit of the best society organizations. It is unfortunately true that we have smoking societies and dining societies and lunching societies and wining societies in the medical profession. In a place of two-hundred and fifty doctors, seventy-five of these are organized in half a dozen different kinds of medical societies; and, in that way, the profession may be split up into cliques, and the mutual admiration society may feast its vanity to the fullest extent, yet the fact remains that a small percentage of all these are earnest and devoted workers. Metropolitan organizations, having large numbers of members, have been found unprofitable;

and although Brother McIlvaine, of Peoria, whose specialty is general practice, and Brother Conner, of Detroit, whose general practice is specialty, are anxious to enter their protests in advance, the specialists are the men most frequently heard from in the medical societies; and those societies which are organized for a special purpose, or for the consideration of special subjects, do the most good. Societies devoted to the consideration of questions in Pathology are too often pathological societies in fact, yet they sometime come forth with the addition of some substantial fact to the common stock, and clinical societies are brim full and boiling over with all kinds of experiences.

Now, the experience and observation man is in his dotage, his papers are like last year's almanac, whilst the despised class who are pleased to call themselves specialists are the men who bring something from the laboratory, the men who introduce something new and useful, as Koller did cocaine. Every doctor may, however, in any of the different societies named, perform some useful work, and learn at each meeting some new fact, or some new application of an old principle. The medical societies are the schools in which medical practitioners are trained. They are, in fact, the colleges, so to speak, in which the medical practitioner receives his educational finish, and we need more of them. They should pay particular attention to the publication of their proceedings, not their resolutions, but the essays upon practical subjects and discussions they elicit.

PROGRESS holds forty-eight pages open to such reports every month, and invites the entire medical profession to take a hand in filling them.

A CORRECTION.

The so-called stenocarpine turns out to be a fraud. Parke, Davis & Co. have analyzed it and found it composed of cocaine and sulphate of atropinia.

PUBLISHER'S DEPARTMENT.

In this portion of the Magazine will be found notes of many things of interest to the student and practitioner. PROGRESS will print advertisements of reputable houses only, and articles of merit; it will therefore be a courtesy and favor to us for our friends who may be influenced to inquiry, correspondence, or trial, as a result of an advertiser's announcement in PROGRESS, to make mention of the fact, and so give the best of evidence as to the value of our pages to those who favor us with their business.

BROMO-SODA.—During my voyage on the steamer Arizona I cured at least twenty-five cases of sea-sickness by giving Warner & Co.'s preparation of "Bromo Soda" in large doses. I heartily recommend it, as from personal experience it afforded great relief when other remedies failed.

W. C. DEANE, M. D.,
727 Lexington Ave., N. Y.

PROPRIETARY MEDICINES—SHOULD PHYSICIANS PRESCRIBE AND RECOMMEND THEM? —"Should the physician use in his daily practice a 'proprietary' medicine? Can he, as a reputable practitioner, recommend these preparations in his correspondence with medical journals, without lowering the dignity of his profession or making himself amenable to discipline for a violation of time honored principles of medical ethics?"

These questions have been put to this JOURNAL, and perhaps to others, with the request that they be answered editorially; and while, as put, they are very broad, admitting of much latitude in replying, we think we but voice the general opinion of those who have given the subject any thought, in answering both of them, in a general way, in the affirmative.

The gist of the whole matter depends upon what is meant by the term "proprietary medicine." In its limited and best sense we understand by the term a remedy of which the ingredients and their proportions are made known to the profession, and the trade or proprietary name of which is alone protected by law. When such preparations are made exclusively for the use of the medical profession, and are advertised exclusively in medical journals, we

can not see any possible lowering of professional dignity or deviation from "time honored principles of medical ethics" on the part of the physician who uses them in his daily practice, or who recommends them in his communications to medical journals.

The name, in this class of proprietary medicines, is to be regarded simply as the guinea's stamp—a guarantee of the purity and genuineness of the product, and the registration of it—patenting it, if you please, is as much for the protection of the physicians who use it as for the parties who manufacture the remedy. It in no sense makes the drug a "patent medicine" any more than does the writing of "Fairchild" before pepsin, "Merck" before or after an alkaloid, or "Schering" or "Squibb" before chloroform, transfer these chemicals into that category. These men—Merck, Schering, Fairchild, Squibb, and a few others, have devoted their lives and spent enormous sums of money in making their products the purest and best that can be attained by human honesty and human ingenuity; and as a reward their names attached in *copyrighted labels* to their chemicals stand as a perpetual guarantee to the physician and patient against the fraud and greed of less honest manufacturers, and it would be a great injustice to them as well as to the profession and public to deprive them of this guarantee.

The question may be, and frequently is asked by the purists, usually by the very old or by very young members of the medical or pharmaceutical profession, aspiring to be considered very scientific, "Why should a physician resort to these ready-made prescriptions at all? Why does he not draw upon his own knowledge of applied therapeutics and write out his own formula in every case? Why does he prescribe this one's sugar-coated pills or that one's gelatin covered granules?"

Why, indeed? Simply because he knows that these articles, being made in vast quantities, by improved apparatus and appliances, manipulated by highly trained and educated employes, and directed by skilled

chemists, can be made better, more accurately and far cheaper than they could be compounded by the most skillful prescriptionist. He does it for the same reason that he buys a watch ready made from the jeweler, or a buggy ready made from the carriage maker.

The most serious charge that is brought against the makers of some of the best known, most valuable and most frequently used proprietary medicines, is that the formula given by the manufacturers are not the true ones, or, as Dr. Craighill, of Lynchburg, Va., in a paper read before the Virginia Pharmaceutical Association, at its last May meeting (published in the *Virginia Medical Monthly* for June 1887), puts it, "a patented proprietary remedy which professes to publish its formulary *but does not*." If this charge were true, it would indeed be a grave one and a just cause for the banishment of such medicines from the list of those which the physician may use "without lowering the standard of professional dignity, etc."

But when we examine into the matter, we find the sole ground for the charge to be that when the ingredients as named are put together by the physician himself, or by the prescriptionist, off-hand, though it may be *secundum artem*, the result frequently differs very widely from the preparation which it is intended to imitate. The fact would go far to prove the charge did we not remember that in all chemical processes *manipulation* has a great deal to do with results, and that the *element of time* has a value that nothing else can supply. A mixture in which no amount of shaking will produce combination or solution off-hand, or no amount of filtration will clarify will frequently become perfectly limpid when given the requisite length of time. We are informed by Mr. Lambert that listerine requires eleven days in its preparation, and Messrs. Battle & Co. tell us that bromidia, for instance, requires six days for the thorough combination of its ingredients. We have no doubt that many other such remedies require even more time for their perfection, and no amount of skill on the part of the pharmacist can possibly make up for this element in their preparation. These facts are fully recognized in France and Germany, and we find the highest class of the medical journals of these countries full of advertisements and notices of preparations exactly analogous to our proprietary remedies.

PROGRESS

A Monthly Magazine for Students and Practitioners of Medicine.

"I HOLD EVERY MAN A DEBTOR TO HIS PROFESSION; FROM THE WHICH AS MEN OF COURSE DO SEEK TO RECEIVE COUN-
TENANCE AND PROFIT, SO OUGHT THEY OF DUTY TO ENDEAVOUR THEMSELVES, BY WAY OF AMENDS, TO BE A HELP AND
ORNAMENT THEREUNTO. THIS IS PERFORMED, IN SOME DEGREE, BY THE HONEST AND LIBERAL PRACTICE OF A PROFES-
SION; WHEN MEN SHALL CARRY A RESPECT NOT TO DESCEND INTO ANY COURSE THAT IS CORRUPT AND UNWORTHY THEREOF,
AND PRESERVE THEMSELVES FREE FROM THE ABUSES WHEREWITH THE SAME PROFESSION IS NOTED TO BE INFECTED; BUT
MUCH MORE IS THIS PERFORMED, IF A MAN BE ABLE TO VISIT AND STRENGTHEN THE ROOTS AND FOUNDATION OF THE
SCIENCE ITSELF; THEREBY NOT ONLY GRACING IT IN REPUTATION AND DIGNITY, BUT ALSO AMPLIFYING IT IN PROFESSION
AND SUBSTANCE."—BACON.

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No. 5.

GENERAL MEDICINE.

INFANTILE

MARASMUS.

BY I. N. LOVE, M. D.,

ST. LOUIS, MO.

Read to the section on
Diseases of Children in
the Ninth International
Medical Congress at
Washington, Sep-
tember 7, 1887.

In presenting a paper for your consideration, with many misgivings I select the subject of "Infantile Marasmus." I am aware that the subject of abdominal and other forms of surgery are

more alluring, and such as this are, as a rule, unattractive, yet we must remember that nothing in the form of disease is trivial, for a human life is always involved, and all that influences and affects life for good or ill is of the greatest import.

A series of interesting cases met with in private practice during the past few years compared with other cases occurring in hospital and dispensary practice have impressed upon my mind the importance of this condition, and the means of antagonizing it.

The term marasmus, like malaria, is a misnomer, and expresses but little as regards the pathology of the disease. It declares simply that our patient is wasting away, repair on the part of the tissues having surrendered partially or completely to decay.

A condition of "marasmus," wasting or consumption, occurs in all forms of exhausting diseases, but the name is only applied in cases of wasting unaccompanied with fever or symptoms pointing to any well-defined disease.

It is more frequently met with among the very young and the aged, but whether infantile or senile, it is usually dependent upon similar causes and conditions. Among the infants we find syphilis, which at once takes them off the list of marasmus cases and places them under the specific classification. Others again have been so classified when they would probably have been more correctly diagnosed as tuberculosis, tabes mesenterica, etc. Care in eliciting the family history and examining the cases will generally avoid these errors of diagnosis.

Many cases of so-called marasmus, if closely investigated, will present a history and general indications of intestinal catarrh.

Niemeyer, in writing upon the subject of chronic intestinal catarrh of children, refers to the fact that the imperfect diagnosis of "marasmus" is frequently assigned to such cases, and he is undoubtedly correct.

Eliminating all cases clearly belonging to other classifications, there remains those cases of wasting or general atrophy, in which no fever or local lesion can be discovered. Pronounced pictures they are, too, after a prolonged period of progression; muscles shrunken and flabby, osseous prominence everywhere visible, with the pale, shriveled, dry skin hanging in broad folds and wrinkles about them, like a pair of loose and baggy trousers upon calfless legs; face withered, wrinkled, and worn, suggesting the miniature daguerrotype of some emaciated, toothless hag; the most pronounced features in the case being loss of flesh, loss of strength,

loss of color, the complexion being of a dull, leaden color.

Having excluded all cases of wasting dependent upon tangible conditions, such as tuberculosis, congenital syphilis, intestinal or gastric catarrh, etc., I shall devote my attention to the consideration of the cases which can properly be called marasmus.

They present all the symptoms above referred to, and in a marked degree we have inactivity of the secretory glands.

In life there is dryness of every thing, skin, alimentary canal, and the munctory organs in general, and after death, upon examination, we find further evidence of lack of fluidity or proper moisture of the tissues, confirming the thought that there has been a lack of secretion and excretion, exosmosis and endosmosis.

Primarily, then, I take the position that inactivity of the glandular system is at fault. In every outstart of every infantile career we have more or less inactivity of the glands, the liver, with other glands, is larger (being more engorged) at birth relatively than at any later period in life. Attention to the proper establishment of the equilibrium of the circulatory, secretory, and excretory system of the infant is of vital importance.

Given this torpid, glandular condition, coupled with improper or insufficient food, and other hygienic errors, we have the factors favorable to the furnishing of a full-fledged case of typical marasmus. The five digestive juices upon which depends the proper preparation of pabulum, for prompt appropriation on the part of the absorbents, are the products of parts of the secretory glands and the proper elimination of effete matter, the ashes of combustion, if you please, depends upon the zealous work of the excretory glands.

To illustrate my position, I herewith report, in concentrated form, the notes of one of a series of cases under my care during the past year.

A. D., born August 1, 1886, of healthy, wealthy parents, who have been under my

observation constantly for over ten years (three other strong, hearty, robust children having been previously born), no hereditary taint whatsoever. At birth well formed, fairly well developed, the labor was, in common parlance, a dry one, but there were no complications and nothing to indicate but what the child would be as healthy as his predecessors.

After a few days, bowels being slow in moving, olive oil was ordered, and nothing more was heard from the child until it was two months old. At this time, aid was sought for the reason that the child was constipated, uncomfortable, and evidently not thriving. Inquiry developed the fact that from birth there had been habitual constipation, but little urination, and continual restlessness and discomfort. The mouth and tongue were dry, the skin inactive, dirty, and yellow looking, the child smaller than at birth, with shrunken and flabby limbs, distended, over-filled and protruding abdomen, with the blue and close-crowded veins standing out like whip-cords over its surface.

There was evidently lack of proper secretion, excretion, and assimilation; the baby was starving, though apparently furnished with sufficient and proper nourishment by the mother. I at once ordered one grain of calomel and twenty grains of sugar of milk, triturated thoroughly for a full half hour, and divided into twenty powders, one powder to be given every two hours dry on the tongue, and followed at frequent intervals with liberal quantities of water. After twenty-four hours had passed, the bowels began to move freely, the aid of several warm-water injections being given, and enormous quantities of hard, undigested cheesy masses were passed, followed for several days by enormous large, loose, offensive dejections. More than likely, on account of this great accumulation, an acute intestinal catarrh would have soon been developed. During this time, when the activity of the glandular system was becoming aroused and the outlook better, the

mother was taken very seriously ill with malarial fever, and it was soon apparent that a substitute was demanded. A strong, full-habited wet nurse (with a baby of the same age as our little starving patient, about three times as large, and almost hoggishly fat) was secured, and, to her credit, she refused to serve unless permitted to bring her child with her, promising to artificially feed him and reserve her breasts for our patient. At this juncture the family removed some distance from the city and beyond my observation, until about six months had elapsed, when I was summoned and found my little patient in a condition every way aggravated. Investigation developed the fact that the motherly instinct of the wet nurse had prompted her to permit her own lusty boy to empty her breasts before giving them to the little starving under her care. Not to go too much into detail, suffice it to say that inability to secure a proper wet nurse soon necessitated artificial feeding. Various foods in the market were tried, without avail; a fermentative dyspepsia and gastro-intestinal catarrh presented, and the beginning of the end seemed near. All milk and malty foods were now rejected by the stomach, and a raw meat liquid food, ten drops in a teaspoonful of water and two drops of brandy, were given every hour, and the child ordered to be given a bath every two hours, in either warm, fully-digested milk, warm cod-liver oil, or warm water, with a teaspoonful of alcohol to the pint.

The internal medication was the infinitesimal dose of calomel triturate (previously referred to) every two hours, given for the purpose of stimulating secretion and excretion, antagonizing fermentation, antisepsis in the rendering inert of the ptomaines and other poisonous products of decomposition in the alimentary canal. This course was followed uninterruptedly except by the gradual increase of the food, with gradual improvement for one week. Artificially-digested milk was then cautiously added to the diet list and the amount of the liquid

raw meat food doubled. From this time on the progress toward perfect nutrition, growth, and development was more and more rapid, and within one month he was becoming a well-nourished baby and possessed of a ravenous appetite, taking goodly quantities of water, and his excretory organs doing good service.

The one-twentieth grain of calomel was continued three times daily for two months, and after that resumed whenever indicated. The nutritious baths with gentle massage and friction were diminished in frequency, but not thoroughness, to three times daily, and later were given only morning and night.

From the observation and study of a series of twelve cases (the cases which I have presented being typical of the twelve) were well-defined causes of innutrition, such as syphilis, tuberculosis, etc., did not enter, I feel that I am justified in deducing the following:

First. Infantile marasmus, so-called, is dependent primarily upon torpidity and inactivity of the glandular system, and aggravated by unsuitable, over-abundant or insufficient food and unsanitary surroundings.

Second. That which is of first importance in the treatment is the arousing of secretion and excretion, and the most valuable remedy we have for this purpose is minute doses of calomel, given in conjunction with as much water as can conveniently be administered, the two agents, calomel and water, both being ardent accelerators of glandular action, stimulators of the secretion of the digestive juices, true aiders and abettors of digestion, and decided openers of the dammed up organs of diuresis, and awakeners of the dormant organs of defection, cleansers of the vital sewerage system.

Third. In the matter of diet, the mother's milk is best, and some other mother's milk next best.

Whether mother's milk or artificial food be given, the quantity and quality should be most carefully guarded.

In many instances, the liquid raw mea

foods in small quantities, well diluted and frequently given, will be of great service. All artificial food should be predigested.

Fourth. In extreme cases the administration of soluble foods, in the form of baths and by gentle friction, will be of value, and in all cases gentle massage and frequent bathing (sometimes adding diffusible stimulants to the water) are of great service, much of the water being directly absorbed by the hungry and thirsty tissues.

THE ÆTIOLOGY AND TREATMENT OF CHOLERA-

INFANTUM.

BY

J. A. WESSINGER, M.D.

HOWELL, MICH.

[*American Lancet.*]

All disease has a cause. No change from the normal in the animal economy, can take place without the presence of the influence or agency that disturbs the balance or

destroys the equilibrium, and thus evolves its own peculiar product, which we know as disease. One is cause, the other effect. Now in studying disease processes we may, or may not, be always able to detect their cause. With the cause manifest, we can put our therapeutics on a rational and scientific basis. With the cause unknown, we must necessarily be empirical in our treatment, since we depend simply and wholly upon the observation of the phenomena of disease. Empirical medicine at one time had a wide field of operation, and it must be admitted that even at the present time, experimental medicine has not been wholly laid aside. Without going further into this line of thought we must pass on and take up some of the causes of cholera infantum and consider their *modus operandi* in bringing about lesions so fatal to infancy.

1. *Dentition.* Almost as far back as the annals of medicine go, the belief has been current that diarrheal discharges in young children were caused by the eruption of the deciduous teeth. How many mothers have received the "satisfying portion" that

their baby's diarrhea is caused by the "teeth." What a feeling of horror pervades the maternal frame when some one chances to speak about poisonous cow's milk, unclean nursing-bottles, and improper clothing. When we remember that the teeth begin to develop at the second month of fetal life and continue until the 6th or 7th year of the child's life, and also when we bear in mind the fact that the tooth in its evolution through the almost insensible gum, is undergoing the same change that it did months before, and that it will for years after birth; it seems strange indeed that so many ills should be attributed to dentition. Now, a tooth is bone just like any other bone, why not therefore attribute these pains and ills to the closing fontanelle, the developing femur, or vertebral column? I suppose people look for changes at this particular time in the dentition process for the same reason that they hope to see various phenomena when the moon changes, as if the moon didn't change constantly and continuously. Do we believe that nature has been so lamentably inadequate to the necessity of properly providing for the growth and development of children, in making the evolution of the teeth, which is a necessary and inevitable process, a cause of death, and thereby defeat her own purpose? No, this is all error, and to attempt to say that this physiological process is a cause of disease is simply trying to cover ignorance. It must be impossible for the physiological to produce the pathological.

Various theories have been advanced in explanation of disease resulting from dentition. Prominent among them were the "humoral" and "titillation" hypotheses. By the first it was attempted to show that the teeth were enveloped by an acrid humor which was the source of all the trouble. By the second it was taught that the advancing tooth produced a tickling of the gums that was so persistent and harassing as to upset the nervous system and cause

disease as a result through reflex or transferred agencies.

2. *Atmospheric Changes.* That changes in the atmosphere have something to do in causing the disease in question cannot be gainsaid. We all know how numerous these cases of cholera infantum become on the approach of the hot season. This may be owing, to some extent at least, to the fact that the fermentative process in milk is more readily set in operation in a warm medium. It is also true that the heat acts as a depressant to the system. Under this influence the degestive organs become sluggish, the food, instead of being digested, undergoes fermentation, and in turn becomes an irritant to the intestinal tract. On the other hand, sudden exposure to cold will cause the disease in question. By this agency the superficial circulation is cut off, the blood tends to the central organs, vasomotor paralysis ensues, the viscera become engorged, with congestion, irritation, and, finally, inflammation as a result.

Lastly, the most important factor in the causation of cholera infantum is the condition of the food taken by the child. Previous to the discovery of tyrotoxicon by Prof. Vaughan, of the University of Michigan, it was often impossible to trace out the cause of this disease, but since this discovery much of the field previously hidden has been brought into view, and the fact that milk under certain conditions will generate a deadly poison, must certainly revolutionize the entire plan of treatment of cholera infantum.

Treatment. In the line of treatment nothing new can be offered. I simply wish to call your attention to a few facts as bearing upon the management of this disease. 1st. The causes of the disease must be kept well in mind. 2. The discharges from the bowels in this malady are always acid; the treatment then should be antacid. 3d. Cholera infantum is a septic, and probably a germ disease. The treatment, then should also be antiseptic. 4th. In-

testinal inflammation develops during the course of the disease. This must be met with the proper remedies. To sum up, the treatment must be antacid, antiseptic, and also to allay inflammation. As an antacid and antiseptic I am in the habit of giving the following:

R Sodii bicarb onatis, . . . ʒ i;
 Sodii salicylatis, . . . gr. xxx;
 Misturae cretae, ʒ ii.

M.

S. Half teaspoonful every hour to a child three months old.

When the case is seen early a dose of oil is administered. To meet the inflammatory changes, I use simple cold water enemata, with the most gratifying results. I know that the life of many little patients has been saved with this treatment alone. I have seen the temperature in some of these cases as high as $104\frac{1}{2}^{\circ}$, and yet one hour after the injection it would be down to 102° , or even 101° , and the little patient go quietly to sleep, to the great satisfaction of physician and parents. I frequently use a grain of sodii salicylate or salol in the enema as an antiseptic. The injection is given twice in twenty-four hours, or every four hours when necessary. I usually fill the rectum and colon full, and by pressing the buttocks together, hold the water in the intestine from two to five minutes. Then all these little patients should wear woolen garments next the skin. Another point in treatment is to discontinue milk feeding. Put the patient upon rice water, barley water, or Horlick's malted milk food. In this food the milk is added during its manufacture, and the food is simply combined with water before using. To illustrate the action of impure milk, I wish to relate a case which is simply one of a series of others.

Baby, æt, three months, was taken in the night with sudden severe vomiting, followed by frequent watery and offensive acid stools. I saw the child the following morning, found temperature $102\frac{1}{2}^{\circ}$; pulse

130, extreme prostration and muscular twitching. Ordered sodii becarb. gr. v., calomel gr. i. to be given immediately, followed with chalk mixture at short intervals. In the evening of same day temperature reached 104°, pulse 160, with all evidence of speedy collapse. I then began to give sodium salicylate with the chalk mixture, and also a copious cold water enema. All milk feeding prohibited, and rice water given instead. At 12 P. M. temperature was 102°, patient had slept some. The cold water enema was repeated every four hours. This line of treatment was followed until the morning of the 4th day of illness, when temperature was 99°, pulse 110, and the general systematic condition good. Bowels moved three times in last twenty-four hours. Shortly after this the baby was given a small quantity of milk, and in four hours from that time the temperature was up to 102½°, pulse 130, child screaming and writhing in pain. The same treatment was instituted as before, and the baby made a good recovery after a protracted illness. I afterward discovered blood in a sample of the milk with which the baby had been fed; and found that the cow from which the milk had been obtained had been sick a few days previous to the beginning of the baby's illness. I have not the least doubt that, had the investigation been carried far enough tyrotoxon would have been found in this milk. In conclusion, I wish to reiterate what Prof. Vaughan lays so much stress upon in caring for milk to be fed little children: Tyrotoxon develops under the influence of heat and absence of air. The milk, as soon as it comes from the cow, must be rapidly cooled in an open dish. The cow should be young, healthy, and kept clean and upon pure food and water. All milk must be kept away from children sick with cholera infantum.

The question of the condition and proper care of the cow used for supplying milk to families receives all too little attention from the general public.

A LITTLE

PERSONAL.

Mr. Bell, the photographer, in Pennsylvania Avenue, at Washington, invited the Congress to assemble on the steps of the south front of the Treasury building at nine o'clock, on Friday morning, September 9th. At half past nine seven or eight hundred had assembled there. Mr. Bell rushed out opposite his camera obscura, and warned everybody to be prepared to look his very best for the important occasion, and announced that in a moment he would give a signal, at the uncovering of the instrument, and that the process was to be of that kind known as instantaneous, and he begged them all to be still just for that brief moment. The result was a very excellent picture. Frowning before the rising sun, which blazed forth into the faces of the assembled throng, stands one conspicuous figure; he is bald-headed; he has a moustache; he looks anxious; he looks comical. Standing upon the stone upon the extreme right flank, gazing over towards the center of the group, is another man well known in medical journalism. He shaves his chin, and permits the beard to grow upon his cheeks and upon his upper lip; he is young and handsome; something has amused him, and he is laughing; and although the picture of this man is blurred, we venture a thousand to one that everybody in Philadelphia would say "it is John Shoemaker." President Davis seems to have been in great haste to get away from the scene. He is in the front rank, almost in the center, and holds his hands in such a position, and his head is set in such a way, that it can be easily seen he is not only anxious to start, but quite ready. Of the eight hundred faces in the group, there is scarcely one which may not easily be recognized by a personal acquaintance.

Mr. Bell is an artist, and it would be difficult to find another more skilled in photography.

GENERAL SURGERY.

WHEN IS COLOTOMY JUSTIFIABLE?

BY
JOSEPH M. MATHEWS,
M. D.

*Professor of Principles and
Practice of Surgery in the
Kentucky School of Med-
icine, Louisville.*

Abstract of a paper read to
the Surgical Section of the
International Medical
Congress, at Washing-
ton, Sept., 1887.

In considering this question, the conclusions are formed after an experience of a score of years in rectal surgery, and my remarks refer especially to the diseases affecting that portion of the gut. Whereas, in the main, I shall object to views expressed by the

majority of authors, and by many who are doing this special work, I wish to admit, that in so far as my objections extend to the dangers of the operation, that under the strict antiseptic precautions that are now practiced in opening the abdomen they are much lessened. However, this admission plays no part in rebutting other objections to the operation which I shall try to produce. You will, therefore, permit me to give my conclusions first and remarks afterwards.

1. I do not believe that colotomy is justifiable in cases of cancer of the rectum.
2. In strictures, or obstructions of the rectum, from whatever cause, located within three and one half inches of the external sphincter muscle, colotomy should not be done.
3. The operation is not warranted in cases of ulceration of the rectum, unless of specific origin and accompanied by strictures, nor when it is obstructed by the presence of a tumor or an aneurism.
4. I do not believe that in cases of congenital occlusion of the rectum that the operation is advisable.
5. In cases where the operation is looked upon as a "dernier resort" I do not think it should be performed, except for total obstruction located above the point mentioned, and not malignant.
6. Where the rectum or sigmoid flexure is

obstructed by syphilitic deposit colotomy should be done.

It is after a careful survey of all the reasons advanced by these authors, who advocate colotomy in cancer of the rectum, that I am constrained to differ from them, and say that I do not believe that the operation is ever justifiable in those cases. The reasons I shall state briefly:

- (a) The operation does not prolong life.
- (b) Admitting that life would be prolonged by the operation, I could not admit its advisability.
- (c) Contrary to prolonging life, it is the rule that surgical interference in these cases hastens a fatal termination.
- (d) Pain is not materially relieved, or indeed lessened by the operation.

In support of the assertion that life is not prolonged by the operation I have only to mention the characteristics ascribed to malignancy, viz: Infiltration; ulceration, and the cachexia or dyscrasia. Surely, if the cachexia exists, opening the colon will not eradicate or stop it, if infiltration and ulceration are progressing or manifest, colotomy will not in the least affect the progress. If there be any chance of prolonging life it will be in the radical removal of the mass before the cachexia is established.

I have stated that the pain, if it be a factor in the disease, is not relieved by colotomy. Pain in cancer is inherent and not controlled by extraneous circumstances. Hence, of what account is opening the gut at a distant part? If, as some would have us believe, pain is caused by the openings made into adjacent parts, as into the urethra, bladder, vagina, etc., I would ask, how the operation of colotomy is to prevent such an occurrence? It is not the passage of the fecal mass over the affected parts that tends to this result, but to the nature of the disease to infiltrate and break down tissue such result must be ascribed to. In my experience in observing these patients pain is not the factor, if factor at all, if the growth is situated above the extreme sphincter muscle, and

does not embrace it. If situated above it, the disposition is to extend upward; and pain, which is spoken of by some, has been absent in very many of the cases that have fallen under my observation. Indeed, it is not uncommon that patients come to my office for examination for some supposed trivial rectal trouble, and I find the rectum completely blocked with a cancerous growth, pain not having been a symptom in the case. Of what avail would colotomy be in relieving pain in these cases, when pain does not exist, and if perchance it does exist it is the result of the pressure of nerves. Therefore, my conclusion is that colotomy is not justified in cancer of the rectum, although recognizing that very many distinguished men, including my friend the late Dr. Erskine Mason, of New York, have strongly advocated the procedure.

2. In stricture of the rectum, from whatever cause, located within three and one half inches of the external sphincter, colotomy should not be done.

In supporting this statement I desire to say, that in my opinion, a stricture located within the distance mentioned can be divided without risk, and the end obtained is much more satisfactory than by so formidable an operation as colotomy; whereas, I am not an advocate of forcible or gradual dilatation of stricture of the rectum, I would much prefer to resort to either method in preference to colotomy. I can not agree with those who think division of a stricture a dangerous operation. Those accustomed to handling the rectum do not dread hemorrhage from any cause, because it is easily controlled, especially in cases like this. To be more explicit in my reasons for division, in lieu of colotomy, I would argue, if the stricture be of malignant origin the result would be that you would get a freer outlet for the fæces, and this is as much as you could expect from colotomy, and we would save the patient from the dangers and the disgust of the latter operation. If the stricture be of benign origin it will in all likeli-

hood be eradicated by division, and would not be by colotomy.

3. The operation is not warranted in cases of ulceration of the rectum, unless of specific origin and accompanied by strictures, nor where the bowel is obstructed by pressure from a tumor or aneurism.

I take it that those who have spoken of colotomy as a resort in ulceration of the gut must refer to the condition as existing when malignant or syphilitic deposit is present, and not to ulceration per-sé, as the result of ordinary causes. If this be true, my remarks in opposing the operation of cancer will apply to this part of the subject, which is but one of the evidences of cancer. If it is intended to apply to syphilitic ulceration my conclusions will be given further on. If ulceration exists requiring even a consideration of so grave an operation, it would not be the condition of ulceration proper that called for it, but the disease, of which it is but a part. In simple ulceration of the gut I can not conceive of any one advocating so grave an operation. The bowel can be cleansed and afterward rested for any length of time by putting the patient on the milk diet, as suggested by Mr. Allingham, or upon any of the beef extracts or liquid foods, the best being, in my experience, a preparation called Bovinine, which is the extract of both beef and mutton. I have kept patients upon this food alone for a number of weeks, in which time the bowel was treated locally until all ulceration had healed.

If, as I have said in this paper, the ulceration is of specific (syphilitic) origin, and accompanied by strictures which can not be divided, then I believe colotomy advisable. Under this head I have said that I did not believe the operation was warranted in cases where the gut was pressed upon by tumors or the existence of an aneurism. I can not imagine any tumor existing where it would be preferable to perform colotomy and leave the tumor. It would be much better surgery to remove the tumor. In the case of

the aneurism no good could be accomplished by doing colotomy.

4. I do not believe that in cases of congenital occlusion of the rectum the operation is to be recommended; of course, reference is had here to occlusion of the rectum proper, and not to cases of imperforate anus. No one would think of colotomy for the latter condition, although it is advised in a late work. My reasons for opposing the operation in these congenital cases are, (1) it promises but little. Statistics are very unfavorable in regard to the success, and my own experience is any thing but satisfactory. I do believe that the reverse should be the rule, viz: Instead of doing colotomy first I am convinced that the perineal operation should be done first; and, with deference to those who differ from me, colotomy not at all. The golden rule could be aptly applied here. The result of the operation is so disgusting that it is sinful to inflict it upon an infant that can not be given a choice.

5. In cases where the operation is looked upon as a *dernier resort* I do not think it should be alone, except for *total* obstruction located above the reach of the knife, and not of *malignant* origin.

In reading the literature of the subject I find that some authors advise colotomy in cases of total obstructions from cancerous growths. I have said enough in the first part of this paper to evidence my objections to this practice, and in a word wish to reiterate my opinion under this head. The reasons have already been given. In cases of total obstruction within reach of the knife colotomy should never be thought of, either malignant or non-malignant. If beyond this point and not malignant colotomy would prolong life, and its advisability would rest with the consent of the patient.

6. Where the rectum, above three and one half inches, or sigmoid flexure is obstructed by syphilitic deposit colotomy is advisable. I beg leave, here, to take exceptions to a doctrine in regard to syphilitic diseases of the rectum, as taught by many,

viz: That syphilitic ulceration of the gut is caused by the extension of chancrous pus into the part. This was the favorite belief of Dr. Erskine Mason, who wrote extensively on the subject, and Dr. Van Buren in his first work on diseases of the rectum was inclined to this view. So late an authority as Ziegler, in his text-book of Pathological Anatomy and Pathogenesis, issued this year, after describing syphilitic ulceration of the rectum, says: "As it is met with almost exclusively in women, it is probably due to infection conveyed to the rectum by the secretions escaping from the vagina." To these views I must dissent. After a very careful study of several hundred cases seen in hospital, dispensary, and private life, I am firmly convinced that syphilitic deposit of the rectum comes as the secondary evidence of the disease, and is purely gummatous, and not by the extension of pus from the genitals. The deposit takes place first, then ulceration from causes to be easily understood, and not ulceration first and then the consequent induration or inflammatory deposit.

In 1877 I had the honor to report to the Kentucky State Medical Society a case of syphilitic stricture of the rectum in a man, the constriction being near the sigmoid, and the flexure being involved in the disease. The whole history of the case proved it to be one of syphilis, and the rectum for eight inches was not involved at all. The stricture was forcibly divulsed by the introduction of the hand and arm into the rectum, and the case subsequently treated by anti-syphilitic medication, and relieved.

One case is enough to refute the whole theory, but the observation of many cases has confirmed me in the belief that syphilitic ulceration of the rectum comes by gummatous deposit, and *never* by the extension of chancrous pus. We all have observed in prostitutes the pouring out of this character of pus which passes into the rectum as well as flows over the mucous membrane of the vagina, and it has never been my fortune to

see one case of ulceration from this cause. I have seen fit to state this much for the reason that my conclusion that colotomy in cases of syphilitic deposit of the high rectum or sigmoid flexure is warranted. I have said that I did not believe it justifiable in cancer, for the reason that it did not prolong life. I say that the reverse is true in these cases, because it does prolong life. The tendency of the disease is to totally block the rectum, and the patient dies in consequence. If relief is had by colotomy, the patient instead of dying, as in cases of cancer, after the operation, is spared perhaps a long life.

The disease has none of the characteristics of malignancy, *i. e.* ulceration, infiltration, extensions, etc., and may be abated constitutionally by medication. In malignant disease the relatives and friends, after death, will upbraid you for doing so formidable an operation without relief. In syphilitic obstruction the patient lives to thank you for saving and prolonging life.

REMARKS.

It may be asked what is to be suggested in lieu of colotomy in the number of cases requiring a surgical operation to make an outlet for the feces, as in cases of stricture, obstructions, etc.? I would answer, that in every case where such conditions exist, falling under the specifications already given, *linear rectotomy* should be done. It is free of danger, and accomplishes as much or more than the more formidable and disgusting operation of colotomy.

DISCUSSION.

Dr. W. W. Dawson, of Cincinnati: I have now under my care at home a young man about twenty-four years of age, who is suffering from cancer of the rectum. Indeed the gut as far as I can reach is blocked with the growth. Now I would like to ask my friend Dr. Mathews, who has read this learned paper on colotomy, what am I to do in this case? Shall I defer any operation and allow the patient to go on to his death? I recognize the objections to colotomy that

the doctor has mentioned, and instead of doing this operation in this case, I think when I go home I will extirpate the whole mass, but I confess that I see but little hope for him from any source.

Dr. O'Neal, of Illinois: I would suggest to Dr. Dawson, that if he would inject the growth with carbolic acid, and then scrape away the diseased tissue, that it would be of great service to his patient, if it did not cure him.

Professor Hamilton, of Columbus, Ohio: I want to say in answer to the remarks of the last gentleman, that such a course as he suggests would be dangerous in the extreme. I was glad to hear the author of this paper take grounds against injecting piles with carbolic acid. And right here I wish to say, that I regard these men who are going over the country preaching the so-called Brinkerhoff system for the cure of piles, as little less than criminals. In the city in which I live was a man rich in money, and occupying a fine railroad position, who had for many years gone around me for fear I would suggest an operation for the cure of his piles. An advertising quack came around and this gentleman was among the first to allow him to practice this dangerous method upon him. The consequence was, that in a few days a large ischio-rectal abscess was formed, in consequence of which he died. There are other cases that I could relate, and I feel that we can not use words too strong in condemning these men and their outrageous practices.

Mr. Samuel Benton, of London, England: I have listened to this paper with a great deal of interest, for the reason that I have had an extensive observation in diseases of the rectum. Dr. Mathews says that it is his opinion that colotomy does not relieve pain in cases of cancer; whereas there are many cases that this statement is true, many others in my experience are benefited in this respect. He speaks of giving preference to the knife for relief of stricture of the rectum. I would like to ask him his expe-

rience with electrolysis in these cases. I have used it quite extensively, and am very fond of it. I usually begin with the small bougie and increase rapidly, and the result has been most gratifying.

Dr. Anthony: I want to emphasize what the author of this paper has said, seconded by Dr. Hamilton, in regard to the injection of piles with carbolic acid. I have seen great harm done by its use, and I am sure that great loss of life has resulted from the Brinkerhoff method in the hands of incompetent men. I agree with Dr. Mathews that colotomy does not relieve pain in cancer. As he states, the cause of pain in such cases is inherent, and I have seen patients after colotomy suffer with the greatest agony, no relief whatever resulting from the operation.

Dr. W. H. Hingston, of Montreal, Canada: We have rather an unusual thing presented in the discussion of this paper. It is generally the case that the older men in the profession are the advocates of conservative surgery, but here we have the younger man advocating it, and the older men are for more radical measures. I can not agree with Dr. Mathews, that colotomy does not relieve pain from cancer. I am in the habit of doing this operation under these circumstances, and have often had good results in lessening pain, or, at least, oftener than the experience of Dr. Mathews would seem to indicate.

Dr. Mathews, concluding: I am obliged to the gentlemen for the free discussion of this paper. I did not expect when I was writing it that my propositions or conclusions would be fully agreed to. They were reached after a careful study of other men's views, and with an experience of a score of years' practice. You will therefore permit me to say, that after hearing this discussion I am still of the same opinion as presented in the paper. I was especially glad to hear from Drs. Hamilton and Anthony the condemnation of this Brinkerhoff system of injecting piles. I agree with them that there is much danger in it, more than the profes-

sion even seem to realize. In answer to my friend, Professor Dawson's query, "What am I to do with my case?" I would reply by asking him a question. If, as he says, the young man's rectum is filled with a cancer, what can you accomplish by doing colotomy? will it stay the disease? will it quiet his pain? will it prolong life? will it do *any* good? In answer to all of these questions I emphatically answer, no. I do agree with him, however, when he says that on his return home he expects to extirpate the mass. If it is within the limits, this is the thing to do. I mean the limit, the cachexia not existing or the glands implicated. If extirpation can not be performed, do rectotomy as the next best thing, and not colotomy in any event. In reply to Mr. Benton's question as to my experience with electrolysis in strictures of the rectum, I would reply that it has not been extensive enough to warrant me in answering. Theoretically I am opposed to it. It appears to me to be a slow process of doing that which could be done quickly. The use of electrolysis in stricture of the urethra, as compared with division by the knife, is not favored in my section of the country. The same objections, if objections there be, would obtain in cases of stricture of the rectum.

CONGENITAL

PHIMOSIS.

BY

WM. S. STEWART, M. D.

Read to the section of
Obstetrics, at the American Medical Association,
at Chicago.

[*Medical Register.*]

The condition known as congenital phimosis, a contraction of the prepuce over the glans penis, attended by inability of retraction, has of late called the attention of the profession

to the fact of its very frequent occurrence, and being a source of discomfort, suffering, and evil to the young victim.

The distress resulting from such condition continues until the force of erection of the organ involved overcomes the unnatural resistance. The evidence of this is exhibited in the fact that most male children, during

their infancy, are more irritable in disposition, nervous in temperament, and difficult of management than females during the same period. In general, when there is a disturbance of any part of the body, the child's hand is instinctively applied to that part; so great is the distress in this condition that he early begins to manipulate his penis, applying his hand to the organ in your presence. For this offense his mother will perhaps rebuke or chastise him, as she has frequently done, without for one moment considering that it is the natural result of a morbid condition, and not due to a depraved disposition.

On investigating the condition of one of these little sufferers we find a muzzled glans, the prepuce mucous membrane adhering to its entire surface, with here and there imbedded between them small, hard, and irritating substances of a cheesy consistence, while back of the corona there is a larger accumulation. On attempting to retract the prepuce as far as possible, its opening is found contracted to about the size of a pin's head. This condition is so aggravating as to result in a desire upon the child's part to micturate frequently, and causes the napkin to be constantly wet, while the penis and surrounding parts are irritated and inflamed. Examining the organ more thoroughly, you will invariably find that the meatus is red and inflamed, as a result of the condition referred to; there is also a scalding on urinating, and the little victim will invariably cry out in the agony of the act, which will by and by attract the attention of the nurse, who in her ignorance of the functions of the various parts of the body will infer that the child's kidneys are affected. This fact being reported to the physician, he, in his thoughtlessness, would most likely attribute it to acidity and treat it accordingly, giving only temporary relief. It is not, however, the difficulty of micturition, nor the accompanying pain which is to be considered, but the effect upon the general system of the pent-up penis struggling for liberty, erecting and

re-erecting, until it finally succeeds in overcoming the difficulty, or until the habit of self-abuse, with all its debasing and debilitating effects, is brought on. No doubt, if careful observation was made, many other serious attacks might be traced through reflex influence to this congenital condition.

Convulsions, which are so liable to occur during the early months of childhood, and are wholly attributed to the effects of teething, indigestion, and intestinal worms, will prove by closer observation to be due, at least at times, to the excessive irritation from phimosis.

Paralysis of infancy has, by still further investigation, been traced to the same cause, and such has been the experience of the orthopedic surgeon that, when from almost any cause a child is brought under his care for nervous affections of any part of the body, the little fellow is examined as to the condition of the foreskin, and if it is not satisfactorily relaxed, the first step in his treatment is circumcision.

I recall a most interesting case of recent experience, where a child had been in convulsions for several days, and under treatment by a reputable physician, who with his bromides and chloral was unable to afford permanent relief. When called to see him one side of his body was paralyzed and his power of speech gone; and still, every thing in the way of remedies had been assiduously given. On inquiring into the history of the little fellow's treatment, what surprised me most was, that on removing the napkin, the mother did not direct the attention of the careless doctor to the condition of the child's penis, as it was swollen and inflamed, and on the slightest pressure there exuded a quantity of disintegrated smegma. The relief obtained by treatment of the organ gave most satisfactory evidence as to the influence of the occult cause in producing persistent convulsions. Although an apparent paralysis had been established, and the spasms were still uncontrolled, after operating upon the child and administering the io-

dide and bromide of potash internally, the little fellow made a rapid recovery, the paralysis disappeared, his speech returned, and he did not have another convulsion from the time of the operation.

Now, gentlemen, as to the method of operating. Circumcision, as a religious rite, has been practised by the Jews since the days of Abraham. Why it should have been imposed upon that nationality as a religious ceremony was probably the fact of the necessity. But as such a rite was not enjoined for the Christian dispensation, we are not obliged to follow any prescribed Mosaic or Christian law, but be a law unto ourselves.

It is the method of operating that interests me most in appearing before you at this time. The idea of using the knife in removing any part of the body is still so repulsive to our fellow Gentile race, and particularly repugnant to parents, especially mothers. Therefore, in order to meet this prejudice, I have been led to devise the following plan of treatment, and, that you may better understand the philosophy of my method, let me first explain to you the condition of the parts. The trouble involved is due to a contraction of the mucous membrane of the prepuce, the skin being lax and sufficiently free. On careful examination you will find the mucous membrane adhering closely to the entire surface of the glans penis. When circumcision is performed the cutting off of the redundant foreskin does not remedy this trouble referred to, nor can the prepuce be retracted without first tearing or splitting up the mucous membrane. What is sought after, for the health and comfort of the boy is easy retraction of the prepuce, so that cleanliness of the organ can be secured, and all irritating matter that has accumulated around the corona may be removed. This, I have found by experiment, can readily be accomplished almost invariably as a bloodless operation by a careful stretching of the mucous membrane with an instrument which I have devised for the purpose, which, with its four expanding blades, stretches the parts

equally, and, at the same time gradually breaking up the adhesions until we uncover the anterior portion of the glans, when we are obliged to resort to the blunt end of a probe to dissect off from the glans, as far back as the corona, the tightly adherent membrane. On so doing we will come across, here and there over the glans, small particles of hard, granular substances, about the size of a pin's head, which have become imbedded between the mucous membrane and the glans, acting as foreign bodies, and, of course, a source of great discomfort.

When the corona is reached we generally find a layer of smegma filling up the entire indenture of this part of the organ. This carefully removed, and the parts oiled with some wholesome unguent and the foreskin drawn forward, the operation is complete, without a drop, or at the most only a few drops, of blood, and without the necessity of a stitch or the application of any special dressing.

We will endeavor to give you an ocular demonstration of our method of procedure in this operation. First, as the operation is only momentary, we will not require to subject the child to the risk of an anesthetic; but, as a substitute, I sometimes use a ten per cent solution of cocaine, applying it over the mouth of the prepuce, which results in a painless operation. After the cocaine has taken effect, having placed the boy on his back on a table, we will take our position on the right side of the boy and table, and with the left thumb and forefinger we will grasp the side of the prepuce while we take the instrument in the right hand. The assistant will stand on the opposite side of the table, and will also grasp the opposite side of the prepuce and will stretch it upward and apart as much as possible, to enable the instrument to be inserted into the opening. Having passed the instrument as far as possible into the orifice of the prepuce, we must be careful to avoid the meatus, as the urethra might be lacerated by mistake.

In expanding the blades of the instrument,

which I have named "Preputial Dilator," much care must be exercised in order that the prepuce is not too suddenly and extensively stretched, so as to avoid tearing either mucous membrane or skin; for, if such should happen, the success of the operation is not nearly so satisfactory. It would be much better to repeat the process cautiously, from time to time until thoroughly accomplished, than to be rash at the first, as it is very evident that, during the healing process, the tendency of the parts are to contract, and therefore re-establish the original trouble.

TRAUMATIC

TETANUS.

BY

E. O. SHAKESPEARE,

A. M., M. D.,

PHILADELPHIA.

Pathologist to the Philadelphia Hospital, etc.

Read to the section of Pathology of the Ninth International Medical Congress, September 6, 1887.

The author reported in detail a long series of experiments which are still in progress and announced the results already obtained. Upward of fifty inoculations have already been made. Two methods of inoculation have been employed.

Intra-cranial inoculations, after the method of Pasteur in the case of rabies, and subcutaneous or inter-muscular injections by means of hypodermic syringes. The inoculations were always made with thorough antiseptic precautions, and with sterilized instruments. In none of the experiments was there any sign of accidental infection, such as suppuration, etc. The material used for inoculation was in general obtained from the medulla or the spinal cord and cultures in neutral or slightly alkaline flesh, glycerine-agar as recommended by Roux for the culture of tubercle bacilli. The tetanus material was taken, under aseptic precautions, from a horse and a mule dead of traumatic tetanus in the veterinary department of the University of Pennsylvania, the brain medulla and cord being removed one and three hours respectively, post-mortem, and immediately kept on ice until used.

The inoculation material was in general

prepared in the following manner: A small piece of the medulla or cord was thoroughly rubbed up in sterilized distilled water; after the solid particles were allowed for a few minutes to subside to the bottom of the vessel, the opalescent emulsion thus obtained was drawn off by means of sterilized pipettes and placed in small sterilized vials until used, never having been thus kept longer than three hours before inoculation. Eight control experiments were made.

The author concludes his paper as follows:

RÉSUMÉ OF RESULTS.

First series—Eight rabbits were inoculated sub dura cerebri, of a horse dead with tetanus, between August 1st and 18th inclusive. The rabbit inoculated directly from this horse showed the first symptoms of tetanus within fifteen hours and died of well-marked tetanus within forty-eight hours after inoculation. Both the period of incubation and that of death became markedly shortened in continuing the inoculations from rabbit to rabbit.

Second series—Four rabbits were inoculated sub dura cerebri from the same medulla of horse. The rabbit inoculated directly from the horse showed the first symptoms of tetanus within twenty hours, and died within forty-eight hours after inoculation. Continuing the inoculation from rabbit to rabbit, the period of incubation and of death became markedly shortened.

Third series—Four rabbits were inoculated sub dura cerebri from the same medulla of horse after it had been kept on ice a day longer. The rabbit inoculated directly from the horse showed the first symptoms of tetanus within twenty-four hours and died within forty-eight hours after inoculation. Continuing the inoculations from rabbit to rabbit, the period of incubation and of death became markedly shortened.

Fourth series—Three rabbits were inoculated sub dura cerebri from the medulla of a mule dead of tetanus, with the same results as in the preceding series.

Fifth series—Seven rabbits were inoculated under the skin and into the muscular tissue of the back,* from the medulla of the horse above mentioned. One died within eighteen hours, another died within ten days, but neither of them showed any signs of tetanus. A rabbit inoculated sub dura cerebri from the medulla of the latter on August 15 is still living and well on September 4.

Sixth series—A rabbit, which had been inoculated under the skin directly from the horse on August 1 was eight days afterward inoculated sub dura cerebri from the medulla of the last rabbit of the third series. It became sick and died promptly of tetanus within the shortened period; a rabbit inoculated sub dura cerebri from its medulla showed signs of tetanus within twenty hours, but did not die until five days after inoculation.

Seventh series—Six rabbits were inoculated sub dura cerebri from emulsions of spinal cords of rabbits which had died of tetanus within the shortened period above mentioned. These cords had been treated in a manner similar to that employed by Pasteur for the attenuation of the virus of hydrophobia during periods varying from three to fifteen days. Five of them died of marked tetanus, the symptoms appearing and death occurring within periods longer than those of the corresponding rabbits from which the medulla had been taken, and usually proportioned to the length of time the cord had been drying. One of the six showed doubtful symptoms, but nevertheless very promptly died.

Eighth series—A rabbit was inoculated sub dura cerebri from the medulla of a rabbit which had died after inoculation from the cord which had been fifteen days drying. It showed the first signs of tetanus in forty hours, and it died of tetanus seven days after inoculation.

A rabbit was inoculated sub dura cerebri from the cord which had been drying fourteen days, and it died of tetanus in twenty hours. A rabbit and a cow were inoculated

sub dura cerebri from its medulla. The former quickly died of marked tetanus. The latter died without marked symptoms within two days and from the autopsy it seemed probable that injury to the brain had been the cause of death (there had been great difficulty in performing the operation of inoculation). A young rabbit, inoculated sub dura cerebri from this cow's medulla, died within sixteen hours, but showed no signs of tetanus, and another rabbit inoculated sub dura cerebri from the medulla of this rabbit August 27 is still living and quite well September 4, never having shown any signs of illness.

Ninth series—Three rabbits were inoculated sub dura cerebri, September 1, from spinal cords of tetanus which had been drying respectively twenty-three, twenty-seven, and twenty-eight days. (These cords were the same as those which had been drying longest, mentioned in the preceding seventh series.) The rabbits inoculated from twenty-three-and twenty-eight-day cords showed no signs of illness up to the time of the last observation, September 4. The one inoculated with twenty-seven-day cord for the first time showed stiff jaws and difficulty in eating on the afternoon of September 4.

Tenth series—Three rabbits which had been inoculated under the skin on the 18th of August, and had remained perfectly well, were inoculated sub dura cerebri, September 1, from the same cords mentioned in the ninth series. The rabbit inoculated with the twenty-three-day cord was found dead the next day, but it showed no signs of tetanus, either externally or at the autopsy. That of the twenty-eight-day cord showed stiff jaws and would not eat for the first time on the afternoon of September 4. That of the twenty-seven-day cord showed no sign of illness up to the last observation, September 4.

Eleventh series—Three rabbits were inoculated sub dura cerebri, August 31, from cultures started from the horse's brain August 1, and removed once, viz., on August 20.

One of them has remained quite well up to the last observation, September 4. One remained quite well until September 2, afternoon, when it showed intermittent trismus and indisposition to eat. This condition continued up to date of last observation, September 4. One showed for the first time slight signs of tetanus September 3, and had them also up to date of last observation, September 4.

Twelfth series—A trial attempt was kindly made for me by Dr. L. Wolff, Demonstrator of Medical Chemistry in the Jefferson Medical College, to isolate a ptomaine from the brain medulla and cord of the mule and cow above mentioned. The Stass-Otto method was more or less closely followed.

The product obtained from the mule was injected under the skin of the back of two rabbits. They became very ill within twenty minutes, being slightly paralyzed and exceedingly restless, frequently getting down flat on the belly and up again, and jerking the hind legs up, but they showed no marked convulsive movement or trismus. They entirely recovered within six hours.

The product obtained from the cow produced but little and only very transient and indefinite effects.

NOTE.—Several autopsies of the tetanus animals were made, and they invariably showed intense congestion of the lungs, trachea, and kidneys. Sometimes there was congestion, oftentimes none at all, of the central cerebro-spinal nervous system.

The mucous membrane of the stomach apparently normal.

Conclusions drawn from the author's personal researches:

(1.) Traumatic tetanus of the horse and mule is, at least, sometimes, if not always, an infectious disease, transmittable to other animals, and therefore possibly also to man, and during the progress of this disease a virus is elaborated and multiplied which is capable of producing the same infectious disease in some other animals when placed beneath the dura mater of the cerebrum.

(2.) This virus is contained in the medulla and spinal marrow of the animal suffering the disease. It is, like virus of hydrophobia, capable of being strengthened in virulency by inoculation sub dura cerebri from rabbit to rabbit, and like the virus of hydrophobia is capable of attenuation by exposure for a sufficient time to the action of dry air at a temperate or summer heat, and still again, like the rabic virus, its effects are far more intense when the virus is inserted beneath the dura mater cerebri than when injected beneath the skin or between the muscles of the back.

(3.) The author reserves his conclusions concerning a prophylatic effect of inoculations of the attenuated virus until the completion of experiments which are at present in progress.

Conclusions drawn from the author's experiments when correlated with those of Nicolayer, Carle, and Ratone, Rosanbach, Ferrari, Flügge, et al.

Traumatic tetanus of the lower animals and of man, at least sometimes, possibly always, is a specific infectious disease due to the action of a specific infectious virus which exists in the tissues at the seat of infection, in the blood, and in the central cerebro-spinal nervous system.

In view of the experimental evidence which we possess at present, and of many unassailable observations of many surgeons and veterinaries, there seems to be ample warrant for the admission that not infrequently tetanus in man is acquired directly and indirectly from some of the domestic animals, notably the horse, which surround him.

ERRORS.

The value of a medicine often depends upon the mode and form of application. It is, therefore, manifestly clear that Iodoform in Keratitis ulcus, Corrosive Sublimate solution in suppurating wounds, Jequerity in chronic Blepharitis papillaris, have been often misapplied, or employed in improper form.

AZOOSPERMIA ;
ITS RELATION
TO MALE
STERILITY.

BY

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Our knowledge of the *potentia generandi* in man is comparatively a recent acquisition to medical literature. The microscopical examination of the semen, coupled with a better understanding of those conditions

conducting to male sterility, renders the theory no longer tenable, that satiated sexual intercourse in man indicates power of procreation. The woman has heretofore borne all blame attached to the *sterilitas matrimonii*. Subjected in consequence to many operative procedures by the gynæcologist without securing relief, she has, notwithstanding, contributed largely to the literature on experimental gynæcology. The inconsiderate attention accorded to this subject in our medical text books, suggests a succinct review of the literature on male sterility, much of which is culled from German publications.

A case illustrative of this affection is the following: G. J., a merchant, aet. 37, consulted me for the following purpose. He has been married ten years. His wife, he avers, "has never known a day's sickness." Their conjugal felicity has been marred in one respect only, viz.: Their inability to beget an offspring. His wife had consulted many leading gynæcologists of Europe, all of whom considered her entirely normal with regard to conception, and attributed the matrimonial sterility to the husband, who was not with her on the continent. Desirous of learning how far he was responsible for her failure to conceive, he submitted himself to me for examination. About twelve years ago, patient had specific urethritis and epididymitis which readily yielded to treatment. The impressions with regard to coition are in no wise abnormal. On inspection of the generative organs, nothing abnormal is revealed, other than slight bilateral testicular atrophy and non-sensitive-

ness of the testes on palpitation. The introduction of the urethral sound encounters no resistance, but shows a slight hyperesthesia of the prostatic urethra. Failing to discover any palpable cause for sterility by the means already described, I enjoined him to have intercourse with a condom. The secretion thus obtained was usually fluid, slightly turbid and absolutely destitute of spermatozoa, as determined by the microscope. The only clue offered to symptomatic treatment, was the prostatic hyperesthesia which was combated in the conventional manner. A subsequent microscopical examination of the semen served but to confirm the diagnosis made at the primary examination, viz: That my patient had *azoospermia*. Here was a clinical history tallying in the main with other reported cases of a like affection. My patient's difficulty lay not in the loss of sexual power, which was intact (*potentia ceundi*) but the reproductive power of the semen (*potentia generandi*), was at fault.

Azoospermia must not be confounded with an almost analogous condition likewise resulting at times in male sterility. This condition has been termed *aspermatisim*, signifying a more or less production of semen, its ejaculation, however, during coitus, being prevented. The causes leading to this condition may be briefly summed up as follows:

- (1) Absolute aspermatisim; the result of a mechanical impediment for the passage of semen into the urethra.
- (2) Relative; the ejaculation of seminal fluid at a time other than during coitus.
- (3) Temporary; when ejaculation fails under certain circumstances, depending either upon the position during coitus, or on the woman with whom it is attempted.
- (4) Onanism; occurring in those who have practised masturbation, and in whom the irritation caused by the frictions of the natural intercourse is not able to induce an ejaculation.

- (5) Paralytic; when the muscular appa-

ratus concerned in the propulsion of semen from the urethra is at fault.

I feel justified in subjoining this latter form which I have called the paralytic, having met with one case which could only appropriately be consigned to this new division. The case referred to was a young man, who after intercourse, would discharge in urinating, a large quantity of semen. Coitus attempted with a condom, left the latter perfectly dry, although after the act, pressure along the urethral canal would always bring to view a variable amount of semen. The amount forced out at one time by my patient, was estimated to be equal to two teaspoonsful. When we remember that 10 to 15 grammes constitutes the mean amount of semen ejaculated by a healthy man during coitus, it is not difficult to understand how in a case of paralytic aspermatisms this amount of fluid can be retained by a healthy urethra without any great inconvenience. The distensibility of a normal male urethra is very great. I have often been surprised at the large quantity of fluid that can be accommodated by the urethra after practising forced injections with the Davidson's syringe, in protracted cases of urethritis.

In cases of paralytic aspermatisms the seminal fluid thrown into the urethra is notably diminished in amount; and in the brief period of time allotted to the sexual act, little, or no semen may appear at the urinary meatus, thus constituting a probable cause for male sterility. Many of us, no doubt, have met with cases where patients complain that the ejaculatory act is in no wise pleasurable, or that undue time is consumed in ejaculation, or even, that when semen does pass the meatus, it does so not spasmodically, but in drops. These may be considered but forms approaching paralytic aspermatisms. To better understand the conditions operating to produce the paralytic form of aspermatisms, let us briefly review the mechanism concerned in producing

erection of the male organ and ejaculation of the semen.

Under the influence of the *nervi erigentes*, the muscular fibres of the corpora cavernosa become relaxed, allowing in consequence an increased supply of blood to the compartments of this spongy tissue. From the spongy tissues of the penis, veins return, many of which terminate in the dorsal vein of the organ. Now, in order that the hyper-vascularity of the male organ be not temporary, owing to the immediate return of the blood to the general circulation, provision is made for this by the presence of the *bulbo-cavernosus* muscle. This muscle begins posteriorly by a tendinous attachment in conjunction with the muscoli transversi perinei and sphincter ani externus. The muscular fibres of the bulbo-cavernosus are distributed on either side in a penniform manner, terminating dichotomously above in an aponeurosis, which becomes fused on the dorsum of the penis with the tendons of the muscoli ischio cavernosi. When this muscular apparatus contracts it must constrict the penis in the region of the symphysis, thus preventing the return of blood from the penis. At the same time the male organ, by the action of the muscoli ischio-cavernosi, is elevated. Normally, ejaculation of the seminal fluid occurs only in complete erection of the penis. Simultaneously with the swelling of the corpora cavernosa there is likewise a swelling of the caput gallinaginis, which as is known consists of erectile tissue. In consequence of the swelling of this latter structure, the openings of the ejaculatory ducts are directed toward the membranous part of the urethra. It likewise subserves the purpose of preventing any communication with the urinary bladder posterior to itself. That the caput gallinaginis completely bars any communication of the bladder with the urethra, is evidenced from the fact that during complete erection of the male organ urination is difficult, if not impossible. It has been furthermore observed that in those patients who have stricture of the urethra, con-

siderable pain is often experienced during coitus at the period of ejaculation. This is explained by the fact, that the accumulating semen has no point of egress, either anteriorly or posteriorly; in the former instance due to the presence of the stricture, in the latter to the swollen caput gallinaginis. At that period of coition when ejaculation begins, a spasmodic though voluptuous sensation is felt in the perineum, followed by the discharge of semen through the ejaculatory ducts. The semen now pouring slowly into the urethra seeks the point of least resistance. It cannot pass into the bladder, for there the caput gallinaginis stands guard; it must pass forward, and accumulates in a physiological excavation called the bulbus urethra. Here the semen accumulates until a sufficiently large amount induces a reflex contraction of the bulbo-cavernosus muscle, and the semen shoots out of the urethra. In instances of paralytic aspermatism the semen fails to be thrown from the urethral canal, owing either to a reduction in the reflex irritability or strength of the muscle concerned in its expulsion. In the majority of instances, however, an insufficient action of the muscle may be assumed.

If we faradise in a healthy individual the perineum, with one pole in the rectum, the other on the perineal raphe, we feel with a moderately strong current that the pole on the raphe of the perineum is spasmodically thrown forward owing to the contraction of the perineal muscles. The farado-muscular contractility as determined in this way is an excellent means of ascertaining the power of the muscles concerned in the erection of the male organ and ejaculation. In my case of paralytic aspermatism faradization of the perineal muscles was not responded to with that alacrity which characterizes normal muscles. I therefore assumed, that the failure to expel the semen was due to a paresis of the bulbo-cavernosus muscle. Prolonged faradization of the perineum after a course of time succeeded fully in restoring my patient to a state of health. A permanent form

of aspermatism has been described occurring as a congenital condition. Individuals affected in this way have never been able to discharge semen, whether during coition or masturbation. The cause of such a condition has been hypothetically assumed to be due to a non-irritability of the ejaculatory center.

Having briefly considered aspermatism with a view of avoiding its being confounded with azoospermia, we pass over to a consideration of the latter affection. Its frequency can better be appreciated when we refer to the classical literature on the subject by Kehrer, who maintained that one-fourth, if not more, of all cases of matrimonial sterility are traceable back to man. In forty cases of sterility, selected at random by Kehrer, the generative organs of both sexes were examined, together with an examination of the semen. In the forty cases, which were of many years standing, azoospermia was present in fourteen, and impotency in two of the cases. From the material thus collected 35.1 per cent of sterile marriages are traceable to conception disturbance in man. I distinctly remember a very interesting clinical lecture by Kehrer with regard to azoospermia, in which he affirmed that it is met with in individuals in whom neither the history, examination of the genitals, or even microscopical examination of the semen would lead you to suspect the existence of the affection. Indeed, the history of such individuals with regard to coitus, as far as pleasure and copiousness of discharge are concerned, presents nothing unusual. Kehrer likewise makes the utilitarian observation, in considering the relation that azoospermia might bear to divorce, that should ever the object of matrimony, aside from any ideal view, be considered in a strictly practical and human sense, having for its object the creation of legitimate children, then an examination of the semen with a view of finding azoospermia will have great medico-legal importance.

The more recent observations of Busch

may likewise be referred to, in order to furthermore indicate the frequency of azoospermia. This author carefully examined the semen of one hundred cadavers without selection, and found the spermatozoa absent in 27 per cent of the cases. The ages of the persons thus examined ranged from 16 to 74, between which ages a physiological production of semen is usually accepted by authors; although prior to puberty and in very advanced life azoospermia must be reckoned as a physiological condition. A drop of normal semen examined microscopically contains hundreds of spermatozoa. We often meet with a condition approaching azoospermia, termed *oligozoospermia*, signifying a diminution in the number of spermatozoa, which, while not necessarily rendering the patient sterile, often passes into azoospermia, as the etiology of the latter affection will teach.

Semen is the product of a number of glands. The secretions of the testicles, seminal vesicles, prostate, Cowper's and muciparous glandules of the urethral mucous membrane, all contribute their quota to this complete substance. The loss of any or all of these secretions is capable of producing male sterility. Let us suppose that the testicular secretion alone be poured into the urethra, then male sterility could result in one of two ways. The testicular secretion is in reality the true fructifying fluid, owing to the spermatozoa which it contains. The spermatozoa in the tests are motionless. One of the main conditions necessary for conception is, that a normal spermatozoa should come into immediate contact with a normal ovum; which necessarily presupposes movement on the part of the spermatozoa. The spermatozoa only retain motion when the testicular secretion becomes mixed with the secretions of the accessory glands of the urethra. If then the latter secretions be deficient or absent sterility may result.

The secretions of the accessory glands subserve likewise another purpose, that of

preparing the urethral canal for the testicular secretion. The urethra from the meatus to the caput gallinaginis performs a double service, that of a genital and urinary canal. Such a canal, therefore, cannot conduct an acid urine and an alkaline semen indiscriminately; if it did, it would do so to the detriment of the latter. In the course of the urethra are physiological excavations which are capable of retaining residual urine. The acidity of this secretion together with the urea which it contains are inimical to the vitality of the spermatozoa. The function then of the secretions of the accessory glands of the urethra by virtue of their alkaline reaction is to neutralize the acidity of the urethral wall. The secretions of the accessory glands appear prior to the testicular secretion, as can be seen at the meatus, when the male organ is in a state of complete erection.

Briefly speaking, any condition which will produce obliteration of the vasa deferentia will cause the disappearance of the testicular secretion. A spermatitis or prostatitis may cause respectively an absence of either the secretion of the seminal vesicles or prostate gland. Other conditions, which we will not consider other than mention, are likewise capable of producing azoospermia, such as conditions depressing the system, atrophy and degenerative changes of the tests, etc.

Perhaps the most frequent cause of azoospermia is gonorrheal epididymitis. Liegois collected eighty-three cases of double gonorrheal epididymitis, and found permanent azoospermia in seventy-five of the cases. Nor has the intensity of the epididymitis, and according to the experience of Ultzmann, any very great influence in the production of the subsequent azoospermia. The very interesting experiments of Kehrer with regard to experimental azoospermia, likewise deserve mention. This author after ligating the *vas deferens* observed considerable excentric hypertrophy (dilatation and thickening of the wall) of the peripheral end of the seminal duct and epididymis, together with

an accumulation of viscid semen containing immature and broken down spermatozoa. He furthermore observed, that the secretory activity of the testicle still continued, only ceasing entirely after five to nine months. Kehrer concludes that the condition resulting from ligation is analogous to the atrophy of muscular inactivity, whereas Curling maintains, the testicular atrophy, to be due to an inflammation, the consequence of retained semen. Brissand observes a difference in the reaction of animals after ligation of the vas deferens, according to whether the operated animal is isolated or allowed to remain in contact with the female animals. In the former instance, the spermatozoa in the epididymis and testicle retained their normal appearance, with complete cessation of the testicular secretion; in the latter instance, dilatation of the ducts of the epididymis together with primary increase and secondary decrease of the testicular secretion resulted.

A very characteristic feature of azoospermic semen is the almost constant presence of spermatid crystals. The more fluid the semen, the more rapidly do the crystals appear. Their chemical constitution is still a matter of mere speculation. Whereas some believe them to be only albuminoid bodies, others look upon them as crystals of magnesia phosphate, or even ammonia-magnesian phosphate. The more recent authorities, however, identify them with Charcot's asthma crystals. Furbringer attributes the peculiar odor of semen, the *aura seminalis* of the ancients, to the presence of the spermatid crystals, and further-more observes, that the latter are only peculiar to the prostatic secretion; a statement which Ultzmann questions. This much is true however, that these crystals are quite diagnostic of azoospermic semen. If we expose on an object glass a drop of semen, there appears only after two or three days, the formation of the spermatid crystals. If on the contrary, we expose a drop of azoospermic semen in a like manner, the crystals appear after two or three

hours. Here then resides the characteristic difference, viz: The rapidity of crystalline formation in azoospermic semen. The tardy formation of crystals in normal semen may be accounted for by the fact, that movements on the part of the spermatozoa necessarily retard crystallization, as would likewise occur in any other fluid. Azoospermic semen, devoid of movement, owing to the absence of spermatozoa, facilitates rapid crystallization.

That diseases and changes in form of the spermatozoa are capable of conducing to male sterility we well know and need no longer merit our consideration. In conclusion, let the therapy of azoospermia briefly occupy our attention, from which, however, brilliant results are not to be expected. In oligozoospermia, that condition attended by a diminution in the number of spermatozoa contained in the semen, and which often precedes azoospermia, is dependent either on diminished activity of the tests or stenosis of the vasa deferentia. Operative interference in cases of stenosis of the vasa deferentia is out of the question, it remains for us alone to stimulate the secretory activity of the tests by direct faradization. The application of electricity is not alone capable of increasing the production of spermatozoa, but of semen which latter dilates by "*vis a tergo*" action the stenotic vasa deferentia. Azoospermia being usually dependent either on complete atrophy of the tests or obliteration of the vasa deferentia, therapeutical results are usually negative. If the epididymis is thickened, owing to infiltration, attempts with the usual resolvent medicines may be made.

In cases of azoospermia occurring in married individuals in whom a desire for progeny is expressed, artificial fecundation, as originally practiced by Marion Sims, suggests itself. True, this theoretically brilliant method has not survived its expectations, but having been practised largely in cases where the woman was alone to blame, does not necessarily contradict the fact, that in women with healthy uteri and in whom no anomaly suggests failure to conceive, artificial fecundation may yet rank among our many successful operative procedures.

EYE, EAR, AND THROAT.

HOT WATER IN
EYE DISEASES.BY LEARTUS CONNOR,
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Read to the Section on Ophthalmology of the International Medical Congress, at Washington, D. C., September, 1887.

In the management of a morbid state in any portion of the body, three things must be considered by the intelligent practitioner, viz.: First, the feeding of the parts during a continuance of the morbid state, else death or

disablement may occur from simple starvation; second, the removal, in so far as possible, of the cause of the morbid state; and third, the placing of the living matter of the part under such conditions as will most rapidly accomplish the repair of the disabled structure. The management of any disease which accomplishes these three things must be scientific, and in the main satisfactory.

Eye diseases are subject to the same general laws of physiology and pathology that govern the diseases of similar tissues in the rest of the body. Hence their management falls under the same general principles. Anatomical and physiological peculiarities simply modify the details of management.

All successful treatment of eye diseases is in its last analysis based upon its ability to accomplish one or more of these things. For instance, take the case of senile cataract. The morbid condition is a diseased lens (probably from starvation of the lens elements at first). However, when opaque, its management consists in its removal from the axis of vision. In doing this by extraction, care is taken that the feeding of the cornea be not shut off by too large a corneal incision by too rough manipulation, or by an incarceration of a piece of the iris in the corneal wound. The reparative activities of the wounded parts are stimulated or assisted by the protection of the wound from all agents of inflammation, as germs, mechanical or chemical irritants, and by physiological rest to the wounded parts.

No thoughtful man will question the fact that the same principles apply to every case of eye disease. But the moment we begin to discuss the agencies by which these principles shall be applied in the treatment of any particular case or disease, divergence of opinion at once appears.

As a fact of experience, after more than ten years of careful observation and experiment, I am convinced that in the management of a large number of eye diseases, the use of hot water is a powerful agent in attaining the three things mentioned, viz: The good feeding of the diseased tissues; the removal of morbid agents; and the promotion of healthful repair. In the brief space allotted to a paper before this body, it is impossible to present in detail the clinical evidence I have collected in support of this claim. I shall only hope to so present the matter as to induce others to give hot water a fair trial. Such trial will convince thoughtful observers that hot water deserves a more prominent place in ocular therapeutics than is usually accorded to it.

In many instances it will accomplish all that is called for in the management of slighter forms of eye troubles, as mild blepharitis, mild corneitis, especially phlyctenular, mild conjunctivitis. I have known numerous cases in which, by a suggestion of one of my patients who had been taught the use of hot water, a goodly number of others had been cured of apparently similar troubles by it alone. But of these cases I do not now speak, farther than to suggest that in this manner the people have a safe and reliable substitute for quack remedies and nostrums and old wives' suggestions.

In more severe and grave affections it is used in connection with such other agencies as experience has demonstrated to possess undoubted value. Thus the use of mydriatics and the local abstraction of blood are the ordinary means of combating iritis. To these are added, in cases of specific iritis, the constitutional remedies for syphilis, and in rheumatic iritis such agents as sodium

salicylate, while in all cases the general health is carefully looked after. In their place these agencies are all indispensable, but in every case hot water will promote the comfort of the patient, assist in dilating the pupil, and shorten the course of the disease. In addition, there are some cases in which the other remedies have failed to cause any perceptible progress to recovery, that at once begin to improve as hot water is added to the treatment, and go on to a rapid recovery. I have witnessed this in so many cases seen in consultation, that I am sure it represents an important fact. The most skeptical will be convinced when he sees the diminished vascularity of the conjunctiva, the increased dilation of the pupil, feels the diminished tension that sometimes occurs when the deeper tissues of the eyeball are involved, and hears the grateful comments of the patient on the relief from pain and other discomfort.

Similar results are observed from the use of hot water in both catarrhal and purulent ophthalmia, in ulceration of the cornea, and in many intraocular troubles of great gravity. In many mild forms of glaucoma, it promotes the comfort of the patient until such time as an iridectomy can be performed. In cases of acute dacrocystitis, it is a most important addition to other treatment and operative procedures. In all these cases it is a prominent factor in relieving the symptom of pain. But there are numerous other diseases of these same tissues, in which there is little, if any, pain present in which hot water is as important in promoting recovery as in those having pain as a prominent symptom. In this class are interstitial keratitis, true trachoma, corneal opacities, intraocular hemorrhage, turbid vitreous, choroidal diseases, etc., etc.

It will thus be seen that hot water is not ranked as a specific for any particular disease, but only as an important adjuvant to the usual management of most eye diseases. Omitting personal idiosyncrasies and conditions when its use is impracticable, there are

no morbid states of the eye upon which it may not exert an influence strongly in the direction of health. This claim is based upon clinical experience, physiological experiment, and well known physiological and pathological laws.

The history of the use of hot water in treating eye diseases is a meagre one. Little has been written concerning it. As a domestic remedy it has been employed from time immemorial. As such it has generally been used in the form of a poultice, and so does not constitute a hot water application in the sense that I use it. Even in the profession, it has commonly been employed by means of cloths, sponges, poultices, etc., etc. In a purely empirical manner it has found favor and disfavor during all medical history, and probably long anterior. That it did not continue in use uniformly was probably due to the fact that its mode of action had not been determined, and the means by which it was employed did not always give favorable results.

The data presented by medical history show that the divers results recorded by different observers bore a close relationship to the method they individually employed in using it. It is plain that if the method was such that the water when it reached the eye was not hot, the results of using hot water could not be obtained. Farther, if sponges, cloths, or other substances were employed to convey the hot water to the eyes, we would have the effects of a mechanical irritant added to those of the hot water. Besides, as these substances speedily cool, the effects of warm rather than hot water were more likely to be obtained.

In the *American Journal of Medical Sciences*, October, 1881, I called attention to the value of hot water in producing a more or less permanent contraction of the blood-vessels of the eye. At that time I had for several years been using hot water for the definite end of producing a contraction of the blood vessels in many diseases. Since then I have continued its use for this pur-

pose with increasing satisfaction. Step by step I learned that hot water would do more than this, and meet other important indications in managing eye diseases. Of these I shall speak presently. That there may be no misunderstanding, I will briefly explain what I mean by hot water. By observation I found that water was hot to some persons at one hundred and ten degrees Fahr., while others would bear equally well a temperature of one hundred and fifteen; others one hundred and twenty; others still one hundred and thirty, or even forty. It was found, also, that when persistently used for long periods, frequently during the day, that the temperature which could be endured was progressively greater. Hence, it became evident that the actual temperature must be made to correspond to the peculiarities of the patient. In the beginning I found it convenient to direct the patient to apply the water as hot as the end of the forefinger would bear without scalding. To quiet patients' fears respecting possible injury to the eye from the hot water, I told them that the eye would not be injured by the heat of the water, unless the skin dripped from the testing forefinger. As a fact, it appeared that eyes are able generally to bear with comfort water much hotter than the fingers.

Quite as important as the temperature of the water is the method by which it shall be applied to the eye. At first I directed the patient to sit with the head inclined over a large bowl of hot water, and with the hand gently throw the water against the eye, taking care that the hand itself did not touch the eye. This enabled the patient to apply hot water directly to the eye. But it soon became fatiguing in cases where it was desirable to apply it for long periods at a time, and at short intervals. It was also objectionable because of the liability of the water to be spilled, to the annoyance of all parties. It was also difficult to keep the water sufficiently hot.

For special cases I devised a large rubber

bulb holding a pint or more, and so arranged that the eye of the patient could be placed in the large opening at the top. By a tube at the top hot water constantly entered, and the cooler water as constantly escaped at the bottom, stop-cocks controlling the flow, as was necessary to keep the water at any desired temperature. A thermometer was immersed in the water so that the temperature could be regulated with exactness. This apparatus gave excellent results, and was used in many experiments, as well as for therapeutic purposes. The objections to it were its expense, its not being at hand when needed, and its failure to fit perfectly every variety of face. Hence for general practice it could not be made available.

Another method found serviceable was the construction of a clay dam on the patient's face, so that when lying flat upon the back the filling of the dam would keep the eye entirely covered with hot water. The water was admitted and drawn off by rubber tubes arranged in a convenient manner. A thermometer was also placed so that the temperature could be kept at a definite point, as in the preceding apparatus. In several cases of malignant gonorrheal ophthalmia this apparatus proved extremely useful, and, in my judgment, saved the patient's eyes. Still the disadvantages of this method are insurmountable for general use. It requires too much care and intelligent watching, and so is limited to the few cases attended by proper conditions.

The last method I shall mention is free from all these objections, and leaves little to be desired. Briefly, it consists in the application to the eye of hot water by means of a common tumbler. The glass is filled to the brim, the head slightly bent forward, and the glass so applied to the face that a dam is formed with the face below the eye and the side of the nose, so that the eye is fully immersed in the hot water. As the mass of water in the glass is considerable, the water will remain some moments at the proper temperature. As it can be renewed in

a second, it is possible, with a small amount of fatigue, to keep the eye immersed in hot water by the hour, if called for. It will be apparent that the water can be made aseptic or antiseptic, as may be desired in any special case. Clearly this method meets all the requirements for universal application, as it is inexpensive, the apparatus being found every where within the limits of civilization.

The use of hot water by any of the methods described is safe; without the watchful care of the physician it may not accomplish all the good possible, but it will have done no harm. The same can not be said of other and common modes of applying moist heat to the eye. Irreparable damage often follows the application of moist heat by means of some solid substance. Among the substances employed the most common is the poultice. As a general rule, this should never be applied to a diseased eye unless under the personal observation of a physician, if it is desired to obtain the benefits of hot water. With the greatest care, it is extremely difficult to get the good effect of hot water, while avoiding the evil effects of the mode of application. In unskilled hands the most dire results are frequently witnessed. All poultices cool soon, and in such a condition they have none of the virtues of hot water, while they have the power of inducing and intensifying the very conditions which hot water tends to relieve. They dilate the blood-vessels and render the circulation beneath them sluggish. Hence, if the cornea be suffering from lack of blood they still farther starve it, and so tend to the destruction of corneal tissue. The poultice in any of its numerous forms is an unsafe and unreliable means of applying hot water to the eye.

In many cases the poultice mechanically irritates an eye already in an irritated condition. This would be objectionable, if we were able to keep the temperature at the proper degree for a length of time.

The poultice is a dirty affair, inconsistent

with the aseptic principles of modern surgery, especially when it is applied to surfaces which have lost any portion of their epithelial covering. In it may be countless morbid germs, and under it may be developed countless more poisonous elements.

The compress is another form of applying moist heat to the eye. It is less objectionable than the poultice, in that it causes less irritation mechanically, is less likely to get cool, and far less likely to become the carrier of morbid material. As a substitute for pure hot water it may occasionally be used as a matter of necessity or convenience, but the results are, speaking generally, less favorable. Singularly, those who have used hot water in this form object to the use of hot compresses in acute affections of the conjunctiva and cornea, while they loudly commend their use in chronic affections of the same tissues. Apparently this is due to the fact that chronic diseases bring the eye into such a state of toleration that it will suffer less harm from the mechanical irritation of the hot compresses. Had these observers employed hot water in the manner suggested, they would have been quite as enthusiastic over its use in treating acute as chronic affections of the eye.

A form of compress, sometimes called for in the treatment of ophthalmia of the new born, is made of absorbent cotton. Watched as are similar plegets, when used to apply cold to the same class of cases, they are safe and efficient, though less so than the water alone. As they are likely to be applied by the average nurse or attendant they are dangerous in the extreme, as promotive of suppuration rather than the reverse. Especially is this true if the cornea becomes involved in the disease.

It will thus be seen that I make a marked distinction between the effects of simple hot water applied directly to the eye, and the effects when any solid substance is employed, as a poultice, compress, etc., etc. The first I have invariably found beneficial, and never harmful, while the latter often fails

to do good, and frequently does irreparable damage.

We are now ready to ask, what are the local effects of hot water applied to the eye?

My first proposition is that *hot water causes a contraction of the blood-vessels in and about the eye.* The proofs of this are many.

1. With the apparatus already described I have carefully studied the effects of hot water upon the human eye, and have always found that when applied for a sufficient length of time it bleaches the normal tissues. This can be seen in the eyelids and in the conjunctival tissues. The time required varies with different conditions and in different persons, but by regarding these it can be obtained. The longer the application is continued the longer do the effects remain when the water is removed.

2. In operations upon the eyelids and external portions of the eye, as well as during the hemorrhage which sometimes complicates an iridectomy or injury to the eye, I have found that hot water most quickly and effectually controls the hemorrhage. What is still better, it stays controlled, while after using cold the hemorrhage is likely to recur speedily.

3. In cases of blepharitis, conjunctivitis, in iritis, in acute dacrocystitis and other inflammatory affections of the external portions of the eye, the same results have been observed to follow so generally that I have learned to expect them with the same certainty that I do local anesthesia from cocaine applied to the conjunctiva. If these do not follow I know that the hot water has not been properly applied.

4. With the ophthalmoscope I have examined many eyes before and after the local application of hot water for from ten to twenty minutes, and found uniformly that the retinal vessels were reduced in size. In a subjective way I first noticed this upon myself. After some very exhausting work, during an attack of indigestion, my retinal vessels became so dilated as to seriously in-

terfere with my distinct vision. Having in my mind the properties of hot water under consideration, I placed my eyes in water at a temperature of one hundred and thirty degrees Fahr., and at the end of ten minutes the disagreeable phenomenon had disappeared. Shortly after this a gentleman applied to me for relief from a similar condition. With the ophthalmoscope I ascertained the size of the retinal vessels, and made a drawing of the same. Then I caused him to use hot water locally as described. At the end of eight minutes he affirmed that his eyes were all right. An ophthalmoscopic examination showed that the vessels were reduced to their normal size, and even less. A comparison of the drawing of the vessels before and after the use of the hot water was an additional evidence of the truth of the point in question. Continued clinical observation of similar cases has given me great confidence in the power of hot water to control the action of such blood-vessels of the eye as retain sufficient vitality to respond to local remedies.

5. Surgical, obstetrical, and gynecological practitioners all tell us that hot water contracts the blood-vessels, checks hemorrhage, and keeps it checked. The evidence here is abundant and conclusive.

6. Dr. R. H. Murray (*Edinburgh Medical Journal*, August and September, 1886,) details some very accurate studies of cold and heat upon the blood-vessels of the uterus. He found that water at a temperature of from one hundred and ten to one hundred and twenty degrees Fahr. constricts blood-vessels and arrests hemorrhage from small arteries. Water at from sixty to one hundred degrees dilates small blood-vessels and promotes hemorrhage. Water at from thirty to fifty degrees checks hemorrhage by constricting blood-vessels, but this only temporarily. After water at these temperatures has lost its power to contract blood-vessels, water at a high temperature is still effective. From these experiments it is clear that hot water acts very promptly; that it produces

a long contraction of the blood-vessels; that there is an absence of vascular reaction; that there is no exhaustion following its use; and that the parts avoid all shock.

My second proposition is: *Hot water will wash away, or destroy, or render less harmful morbid agents in and about the eye during the progress of many diseases.*

Concerning the first part of this statement there can be no difference of opinion. All will grant that hot water will wash out of the conjunctival cul-de-sacs, secretions, excretions, products of inflammation, foreign substances, etc., as readily as any other liquid. Few will doubt that it will do it better even than cool or cold water. As a mechanical detergent for the eye, hot water stands first.

2. Water at a temperature of from one hundred and ten to one hundred and forty will certainly check some forms of putrefaction. It matters little whether it does this by rendering less active the germ agent which produces the mischief, or by repairing its damages, or by rendering the tissues less susceptible to its ravages. The practical end is the same. I have so frequently observed the changes in the secretions of the eye under the influence of hot water that I am positive as to the result. Concerning the exact *modus operandi*, I am not in a position to express a positive opinion.

Dr. Heyl (*Archives of Ophthalmology*, September, 1886,) gives reasons for believing that hot water acts beneficially in purulent ophthalmia, by placing the tissues in a condition unfavorable to the growth of gonococcus of Neisser. The same thing is done by the application of nitrate of silver. Hence he commends in this form of disease applications every three hours of a weak solution of nitrate of silver, carefully neutralized with constant applications of hot water.

Dr. George Sternberg (*American Journal Medical Sciences*, July, 1887,) gives some experiments made to determine the degrees of heat necessary to destroy different micro-organisms. He found that a temperature of 132° degrees Fahr. was fatal to the bacillus

of typhoid fever, the bacillus of anthrax, the bacillus of glanders, the spirillum of Asiatic cholera, the erysipelas coccus, the virus of vaccinia, of rinderpest, of sheep pox, and probably of several other infectious diseases. As the eye will endure a much higher temperature without injury, as we have demonstrated, it is clear that at least some micro-organisms may be destroyed by the use of water of such a temperature as may safely be applied to the eye. The principle being established, farther observation will determine the limits of its application, and it will become a recognized factor in the management of such diseases of the external portions of the eye as are caused or maintained by micro-organisms.

My third proposition is, that *the local application of hot water to the eyes, in the manner described, promotes the healthful activity of the living protoplasm or living matter.*

One function of living matter is to separate from the blood currents such elements as are required for the repair of worn-out tissues, and elaborate them into tissue proper. Another scarcely less important function is to remove the broken down or effete materials. Upon the proper performance of these two functions the integrity of any portion of the body depends. That the regulation of the blood currents is essential to such performance is self-evident. Perhaps this may explain the quickening of reparative processes, observable when the eye is suffering from conjunctival or corneal inflammation. Still I think we must look farther for an adequate cause. Other remedies, notably cocaine, are capable of contracting blood-vessels, but they also, in some manner, interfere with the nutrition of the parts so that they are harmful in purulent corneal troubles, and of doubtful utility in other conditions.

It is well known that each portion of the body thrives best when kept at a given temperature. When it is enfeebled by disease, a different, and generally a warmer temperature is called for. In other cases a lower

temperature is demanded lest the parts be destroyed by the excessive heat. The temperature must be elevated or lowered, as called for under such varying conditions. It would seem from this statement of the case that the natural application to an eye, when its temperature was elevated by an acute purulent inflammation, would be cold. But I have often seen the temperature lowered nearly to the normal by the local application of hot water. When this can be done it is a safer line of practice. That it can be done in every case I can not affirm, as my observation is limited to a few cases, but in none of these was an exception found. I have explained this effect by assuming that a better circulation through the diseased parts was effected, some of the morbid materials were removed, and the living tissue placed in such conditions that it could act more effectively in resisting the encroachments of morbid agents, and better repair damages. This is not singular as applied to eye diseases, as it has been observed in many other organs, and, to the student of general medicine, may seem trite.

My fourth proposition is: *Hot water has great power in relieving muscular fatigue and spasm.*

Like all other muscles those of the eye often weary after excessive use. When ocular defects exist fatigue is earlier and more marked. For the relief of this distressing condition I know nothing so efficient as hot water. In the researches of Dr. Murray, already referred to, he gives some exact studies of the uterine muscle as acted upon by hot water. He found that the application of water at a temperature of from one hundred and ten to one hundred and twenty degrees Fahr. caused the muscle to contract almost instantly. The relaxation was from twelve to twenty times the duration of the contraction. Successive applications were followed at once by a response. The efficiency of the contraction was greatly increased. The periods of relaxation and maximal contraction were much increased.

In four experiments there was a gain of four times the initial efficiency. Continuous application induces a high degree of contraction, broken by secondary waves of partial relaxation and contraction. Thus the applications of hot water actually increase the contractile power of the muscles.

On the other hand, he found that water at a temperature of from thirty-two to sixty degrees Fahr. caused the muscle to contract slowly, produced a relaxation three times the duration of contraction, and destroyed the power of contractility except after a period of rest. Continuous application of the cold water produced rapid exhaustion of the muscle, so that it soon failed to respond, being completely relaxed.

From these data it would seem evident that in cases where it is desired to increase the efficiency of the muscles of the eye, the use of hot water is clearly indicated, and that of cold contra-indicated. It matters not how the exhaustion be induced, hot water is the most efficient agent in relieving it. Frequently in cases of insufficiency, moderate in extent, of one or more of the recti muscles, we have seen it cease to trouble the patient after a continued use of hot water locally applied. In most cases, however, it is necessary to correct existing defects by the use of prisms, changing the insertion of the muscles, etc., the hot water affording only temporary relief. After operations for squint I always order the local application of hot water for a considerable time, in order to bring the muscles most quickly to their greatest vigor, and so enable me to ascertain the full effect of the operation. The liability to over-correction is thus materially diminished, because the full effect of the first operation is more accurately determined before the last is performed. No doubt hot water induces these effects by other means than by its direct action upon the muscles of the eye, but it is to the latter that we now direct attention.

Admitting the propositions advanced to be substantially correct, what is their prac-

tical application to the management of eye diseases? It seems to us that every thoughtful student of such cases will at once be able to designate numerous conditions in which the patient would receive great benefit from the local use of hot water.

Active and passive congestions and inflammations, both without and within the eyeball, would all be benefited by so regulating the current of blood through the eye as to enable it to approach the normal standard. It is not claimed that hot water will do this in every case, but it will materially assist such other remedies as may be employed for this purpose. In the external diseases there is always some morbid agent which this use of hot water will remove. And finally, in every case the diseased tissues need all the assistance afforded by hot water to enable them to return to a normal condition. The list of extra and intra-ocular inflammations is a long one, and need not be enumerated here. All will be more or less benefited by the common sense use of hot water to the extent of obtaining its physiological and therapeutic effects.

Another class of cases in which the effects of hot water are very desirable are those in which muscular strains, weaknesses, and pains form a part. Of course, the causes of these muscular derangements must be ascertained and, if possible, removed. This being done, most cases require no farther attention, but, meantime, the hot water adds materially to the patient's comfort and expedites the recovery. Sometimes this can be but imperfectly accomplished, or not at all. Here the regular use of hot water two or three times a day, for from ten to twenty minutes at a time, more or less, according to the nature of the case, will greatly add to the patient's comfort, and materially enlarge the working capacity of his eyes.

Another class of cases benefited by the local application of hot water are injuries to the eye. In such cases as admit of its use, hot water renders the patient more comfort-

able and materially hastens the reparative process.

I desired to detail typical cases, with the actual treatment in each, as illustrative of the use of hot water in the manner described. But time forbids.

In conclusion, I present the following summary of the points I have endeavored to make plain:

1. The best effects of hot water in eye disease can only be obtained when the water is so used that it comes in direct contact with the eye. In practice this is best done by means of a common tumbler filled to the brim with water at the appropriate temperature, and so adjusted to the face that the eye is immersed in the water.

2. By hot water in this connection, is understood water at the highest temperature the patient can endure, viz., from 105° F. to 140° F. Lower temperatures produce quite other effects than those desired.

3. The hot water must be applied long and often enough to accomplish its peculiar effects.

4. The peculiar effects of hot water are:
(a.) The contraction of blood-vessels both within and without the eyeball, reducing them to a size approaching, if not equal to the normal.
(b.) The removal of some of the causes of disease, if such exist, on the conjunctiva or other external portions of the eye, and the rendering of other causes less harmful.
(c.) The promotion of a greater reparative activity of the normal living matter about the morbid material.
(d.) The removal of muscular irritation or spasm and the promoting of the normal vigor of the muscular tissue.

5. Finally, hot water does its work without any shock to the nervous system, or without any loss to the actual energy existing in the eye, and without any possible harm to the eye.

6. It is the one application that has no disadvantages or drawbacks aside from the trouble that it involves.

OBSTETRICS AND GYNÆCOLOGY.

CANCER OF THE
UTERUS.BY A. REEVES JACK-
SON, M.D.,

CHICAGO, ILL.

*Abstract of a Paper read
to the Gynæcological Sec-
tion of the Ninth Inter-
national Medical Con-
gress.**Annals of Gynaecology.*

DIAGNOSIS. While it is not commonly difficult to diagnose the presence of cancer in its more advanced stages, our knowledge of its beginning is lamentably deficient. Who can tell of the cause and nature of the tran-

sition from benign to malignant structures? After the change has taken place we may learn, by means of the microscope, that certain alterations have occurred in what were formerly normal typical cells, or at least that atypical cells are present; that other cells contiguous to those first affected become rapidly involved; and, still further, that at a considerable distance from these, and with healthy tissues intervening, may be found other atypical cells, each endowed with an aggressive tendency to influence its neighbors, and thus become a nucleus for the further spread of disease. Whence come those outlying germs? Have they been conveyed by way of the lymph vessels, or otherwise, from the part primarily affected, or had they a separate and independent origin? However this may be, the important fact to the surgeon is that such separated localities of disease may and do exist, and that during their earlier stages he cannot, either before or during operation, possibly know of their presence. This circumstance, more than any other, explains the frequent failure of operative measures to cure cancer; they fail to remove all of the diseased tissues.

Treatment.—In all cases of uterine disease in which the diagnosis of malignancy is doubtful the patient should be given the benefit of the doubt by the prompt removal of the disease, if this be possible. If radical treatment be delayed until an affirmative diagnosis can be positively made, the

chances for success are greatly lessened. When we shall have learned to detect what I have no doubt exists, namely, a pre-cancerous or transition stage between inflammation and carcinoma, and shall have learned to act upon the knowledge, then, and not till then, shall we be able to cope, with some satisfactory degree of success, with a now dreaded and practically incurable disease.

Likewise, after the diagnosis of malignancy has been affirmed the disease should be removed, if it appear that this can be done. Any delay, dangerous enough in the doubtful or very early stage, is still more dangerous now. The disease from the beginning progresses, and there comes a time when it passes beyond our surgical reach.

Amputation by Galvano-cautery.—In 1882 Pawlik¹ published a report of 136 cases of cancer of the cervix which had been treated in the first gynæcological clinic of Vienna by means of the galvano-cautery, the observations extending back to 1861. The mortality from the operation, although not exactly stated, must have been exceedingly small; apparently not over 3 or 4 per cent. By amputation with the hot iron, Schröder², out of 13 cases, had an operation mortality of $7\frac{7}{10}$ per cent., and of the survivors 42 per cent. remained well at the end of 18 months to 2 years. Carl Braun and Simson cite the testimonies of patients who were operated upon in this manner, and who had continued alive and well for a quarter of a century.

Notwithstanding the theoretical advantages which have been claimed for the operation by the knife, the foregoing results have never been equalled, so far as I am aware, by any form of cutting operation, in any considerable number of cases.

Amputation by the Knife.—At a meeting of the Obstetrical Society of Berlin, held October 23, 1886, Hofmeier³ reported the

¹ American Journal Med. Sciences, October, 1884, p. 605.² Post, "American Journal Med. Sciences," Vol. XCI., p. 140.

number and results of Schröder's¹ partial amputation of the uterus for cancer, and the results of total extirpation by the same operator. The report included all the cases which had been operated upon from October 1, 1878, to October 1, 1885. During that period there were 118 partial amputations, with 10 deaths; mortality, 8.5 per cent.; and 48 total extirpations, with 12 deaths; mortality, 25 per cent.

In a subsequent report Hofmeier stated that, from December 31, 1883, to date of report,—that is the later cases,—there had been 83 supra-vaginal amputations, with 8 deaths; mortality, $9\frac{9}{16}$ per cent. In these the result was doubtful in 19; relapses within 2 years, 35, or 42 per cent.; free from disease 2 years or longer, 21; $25\frac{4}{10}$ per cent. During the same period there were 35 total extirpations, with 9 deaths; mortality, $25\frac{7}{10}$ per cent.; result unknown in 6; relapses within 2 years, 15; $42\frac{8}{10}$ per cent.; free from disease 2 years or more, 5; $14\frac{2}{10}$ per cent.

In 1882² Dr. W. H. Baker, of Boston, published the details of a method of high amputation devised by himself, and gave the histories of 10 cases in which he had employed it. This report was supplemented by another,³ showing the status of these patients in January, 1886. The remarkable and very gratifying results are as follows: 1 after 6 years and 2 months; 1 after 6 years; 1 after 5 years and 3 months; 1 after 4 years and 8 months; 1 after 4 years. One patient died at the end of 4 months. There was no death immediately after operation. Dr. Baker considers that after any operation for cancer patients cannot be pronounced cured until 4 years have elapsed without recurrence. The best reported results from other methods of high amputation show a mortality of $7\frac{3}{10}$ per cent.

Baker claims for this method over others the following, among other advantages: 1.

More of the uterus may be removed; 2. The Peritoneal cavity is not necessarily opened; 3. It gives a larger percentage of cures.

I have operated substantially according to the method of Baeer 21 times. In 6 cases there was a recurrence of disease and subsequent death. In 4 cases the history is unknown after a few months.

Extirpation of the Uterus.—In the reasonable expectation that by the removal of the entire affected organ there would be greater likelihood of eradicating the disease, the cancerous uterus has been extirpated about 500 times,¹ approximately 150 times by the abdominal, and 350 by the vaginal method.

This number is now sufficiently large, and enough time has now elapsed since the revival of the operation by Freund, in 1878, to enable us to form a fair estimate of its value as a curative method of treatment.

Owing to the frightful mortality attending the abdominal operation—not less than 72 per cent., and probably considerably more—it has been abandoned, except in a comparatively small number of cases in which the vaginal method is inapplicable.

The mortality of Kolpo-hysterectomy, according to the statistics compiled by Dr. Post, is shown to be 27 per cent. in 341 cases. This is 1 per cent. less than the result of the first 29 operations, collected by Hegar and Kaltenbach, and published 6 years ago; and 2.4 per cent. greater than the result in 256 cases published by Mundé in September, 1884.²

The statement has been made that the mortality of the operation is steadily lessening year by year. While this may be true, these tables hardly show the fact.

¹ In addition to 93 cases collected by Kaltenbach, Duncan ("London Lancet," Jan. 31, 1885) cited 44 cases by the abdominal method; and Dr. Sarah E. Post ("Am. Journal Med Science," Jan., 1885) has collected 341 cases of Kolpo-hysterectomy.

² Since the above was written, Dr. A. Palmer Dudley ("New York Medical Journal" for July 9 and 16, 1887) has compiled a table of 66 cases by American operators. Twenty-three of the patients died within a week. Mortality, 34.8 per cent.

¹ American Journal Obstetrics, Vol. XIX., 1886, p. 207.

² American Journal Obstetrics, 1882, p. 265.

³ American Journal Obstetrics, February, 1886, p. 184.

In the case of a few operators improvement has unquestionably occurred, but it is by no means general.

The only valid claim that can be made for the favorable recognition of Kolpo-hysterectomy is that it prolongs and saves life. Does it do this? In the 341 cases reported by Dr. Post there were 93 deaths. What is the significance of this fact? While we can not know just how long these 93 women would have lived, if permitted, we can at least form an approximate estimate. According to the observations of Gusserow, Lebert, West, Seifert, and others, the duration of life in patients with cancer, from the first manifestation of symptoms, is 20 months. The statistics of Paget and Sibley show that cancer patients, without operation, are likely to die in 3 or 4 years. Accepting the lower of these estimates, these 93 women who died would have lived an aggregate of 155 years. A loss of more than a century and a half of human life must be charged at once to the account of the operation. What is there to offset this? Have other lives, otherwise doomed, been so prolonged as to balance this terrible death? We shall see.

It has been shown that, in those who survive the operation, reoccurrence takes place on an average in about 4 months, and death in 14 months (Sanger),¹ so that the survivors of these 341 operations, numbering 248 persons, would live a total of 289 years; whereas, if uninterfered with, or treated only by palliative measures, they would have lived an aggregate of 413 years,—a difference of 124 years. This number added to the 155, the immediate loss by the operation mortality, makes a total of 279 years. The history of surgery surely fails to furnish a parallel to this.

Even this ghastly arraignment does not cover all the facts. If the records were complete, the showings would be still worse.

I have for a long time believed that the

statistics upon this subject are unreliable, and that if the whole truth were known, the results of the operation would be still more unfavorable than they now appear.

In order to test the correctness of this opinion I have recently obtained the histories of 17 cases of vaginal hysterectomy for cancer which have been performed in Chicago; and I failed to get all of them. Except in 3 of the cases these reports have been furnished directly by the operators. All of them are authentic; of the 17 operations 9 were promptly fatal; one of the survivors lived 6 months; one lived 2 years; one lived 3 years and 8 months. The remaining 5 are still living; the operations have been done respectively, 7, 5, and 4 months, and one 5 weeks ago.

Of the 17 cases, with a mortality over 50 per cent., 2 only have been published.

I have already stated that in the survivors after Kolpo-hysterectomy reoccurrence takes place in 4½ months on the average. It is sometimes very much earlier. What besides the quickly following death does this signify? *First*, and undoubtedly, that the disease was not removed; that the so-called reoccurrence was simply continuance. *Secondly*, it ought to signify that it was not removed, because the operator was unable to diagnosticate its extent.

Is extirpation of the cancerous uterus a justifiable operation? I affirm that it is not.

It has already been shown that, as compared with other methods of treatment, hysterectomy, whether by way of the abdomen or vagina, has given inferior results. Its primary mortality is very much greater, and recurrence and death are as quick and as sure. Theoretically it would seem that extirpation should offer more certain immunity against return of the disease than any minor method of treatment; and if this were shown to be true in a considerable degree its larger mortality would scarcely be a valid argument against it. But the facts, so far as known, show that the reverse is true. Partial amputation by means of the galvano-

¹ Sanger; "Archiv. f. Gynak.," XXXI, 1, states that in 6 cases observed by him the average time which elapsed between the operation and death was 14.1 months.

cautery, or with the hot iron, or with the knife—the latter especially when followed by the use of caustics or the cautery—has given incomparably better results, both as regards the immediate death-rate and ultimate results, than ablation of the uterus.

When cancer is limited to the cervical mucous lining, the removal of the entire organ is surely not indicated. The excision of a conical portion, including the external os uteri and extending beyond the internal os, should be sufficient to remove all of the diseased tissue. In cancer of the cervix, for which at least 90 per cent. of the operations have been performed, it is really improper, because dangerous and unnecessary. It is four times more dangerous than any form of high amputation; and unnecessary, because owing to the fact that the extension of cervical cancer is circumferential and not upwards, supra-vaginal amputation is capable of doing all that can be done by total extirpation at any curable stage of the disease.

This, then, practically reduces the field of the operation to cancer of the uterine body. The disease is much rarer here than in the cervix. Its progress is by way of the Fallopian tubes and the network of lymphatics which surround the organ on all sides. The difficulties of diagnosis are very great, and not likely to be settled until the disease has advanced beyond the limits of the uterus. Other conditions closely resemble it.

Dr. Martin, in the paper which he has read to us, propounds the following questions:—

“1. Is this operation practicable, with such immediate success that it promises good results in the hands of others than a few specially successful operators?”

“2. Does the extirpation of the cancerous uterus give permanent results which force us to recognize that this method is superior to any other treatment of cancer employed up to the present time?”

Dr. Martin does not hesitate to answer his first question in the affirmative, and, instead

of giving the results of the work of the “others” in support of his position, he only furnishes those of the “specially successful operators” of Europe,—a method of argumentation calculated to mislead, because based upon only a partial presentation of the facts. This, at least, seems clear. If the 311 cases given in Martin’s table show an immediate mortality of only 15.1 per cent, it follows that the mortality of the “others” which has been estimated at about 28 per cent, must be very much higher than has been supposed. Thus, Dr. Martin’s statement of data seems to contradict the correctness of his conclusions.

In reply to Dr. Martin’s question, “Is there any other method of treating cancer which, with so small a mortality, can show equally good results?” I answer unequivocally in the affirmative. Dr. Martin believes otherwise.

I beg to offer the following conclusions:—

1. Cancer of the uterus is originally a local disease, and is curable by complete removal.

2. Any operation for cancer which does not completely remove the disease will be followed by recurrence.

3. The extent of cancerous disease originating in any part of the uterus cannot be known prior to or during operation; hence no operative procedure can afford a guarantee of complete removal, or of immunity from recurrence.

4. In the radical treatment of uterine cancer the most favorable results, both immediate and remote, have been obtained by the amputation of the diseased portion by means of the galvano-cautery, the hot iron, and the knife.

5. Kolpo-hysterectomy is more dangerous, and has given worse results than any other method of treatment. It has destroyed, and has not saved, life. It is an injurious, and not a useful, operation. It is more rapidly destructive of life than the disease against which it has been used. Hence it should be condemned as unjustifiable.

PATHOLOGY AND HYGIENE.

TYPHOID FEVER
IN LOUISVILLE,
CONSIDERED FROM
AN ECONOMIC
STAND-POINT.

BY J. M. CLEMENS, M. D.

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and Practice, and of
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lege of Medicine
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(Read to the Public Health
Conference at Louisville,
May 25, 1887.)

By reason of her situation on the falls of the Ohio river, whose turbulent waters purify and temper her atmosphere; by reason of her broad, regular avenues, bordered with magnificent shade trees, her roomy residence grounds; by reason of

a practically self-draining foundation of sand and gravel, to which is added an excellent system of sewerage, Louisville to-day rejoices in the distinction of being the healthiest large city in the United States.

Notwithstanding this fact, we have had, according to the records of our health office, in the three years from March, 1 1884, to March 1, 1887, three hundred and seventy-nine deaths from typhoid fever—a preventable disease, from whose ravages our people should have been exempt. The mortality in this disease is variously estimated at from five to fifteen per cent. Placing the average at ten per cent., this death-rate represents about three thousand seven hundred and ninety cases.

Leaving sentiment out of the question, there is no estimating, in dollars and cents, the suffering of the patient, the anxiety at the bed-side; the sorrow and grief of the mother, father, sister, wife, on the death of a dear one. And considering the subject from a purely economic stand-point, what are the gross results?

Inquiry at undertaking establishments enable me to place the average cost of these funerals at sixty-five dollars. This would aggregate for funeral expenses alone \$24,635. Estimating physicians and druggist bills together at a low average of thirty-five dollars to the case, we have another sum of \$132,650, making a total of \$157,285 to come out of the pockets of our people who

should have been protected against this disease.

There are other considerations more directly affecting the material interests of the city which it will not be necessary to consider now.

Of these may be mentioned the value to every community of the business activity of its young men and women, and that nearly all deaths from typhoid fever are of persons under the age of forty-five years.

It may be argued that the city cannot be responsible for expenses incident to disease and death in the families of its citizens. This is true. But when we consider that its general sanitary system, including the water supply, is under the control of the city government, if it can be shown that there are reasonable grounds for believing that in this city, in the last three years, nearly four thousand of our people have sickened and nearly four hundred have died of a disease propagated by causes which can, in the main, be removed, there can be no escape from a fearful moral responsibility so long as these causes are permitted to exist.

Although discussion of the etiology of typhoid fever is foreign to the purpose of this paper, it will be necessary to state the almost universally accepted theory of its causation, in order to justify and make reasonable the conclusions at which I have arrived in my investigation of the endemic which has prevailed in this city in the last few years. That typhoid fever is due to a definite specific cause, no well informed physician at this day doubts. That it is due to a distinct and peculiar micro-organism has been demonstrated by such scientists as Eberth, Klebs, Friedlander, Meyer, Gaffky and others, and accepted by the majority of enlightened members of the medical profession everywhere.

The germs of the disease enter the system almost, if not quite entirely, by way of the alimentary canal, by means of liquids, water, milk, etc., doubtless sometimes by food which has been contaminated in some-

manner. There is no question, however, that, directly or indirectly, drinking water, often cool, sparkling and sweet, is the medium through which they enter the system in ninety-nine per cent. of all cases.

It will be well to bear in mind that the intestinal dejecta of typhoid fever patients contain these germs, which have great vitality and enormous multiplying capacity; that by means of these germs so contained, finding their way chiefly through drinking water into the stomach, that the disease is conveyed from one person to another. In the light of these facts let us look for an explanation of the prevalence of typhoid fever in this city in the last few years.

Perhaps my hearers are all familiar with the fact that our entire city, with the possible exception of what is known as the "Highlands," rests upon a deluvial foundation, chiefly sand, gravel and boulders, which may be seen wherever a deep excavation is made.

Evidently, in ages gone by, the site of this city was a vast expanse of water or lake, which, in process of time, was filled by diluvial deposits, or the river pursued a course south of the greater portion of the city as it now stands, and by the usual causes its channel gradually changed to its present location. It matters not which theory is correct, it is evident that in curving around the city a sheet of water is given off, passing under the city through the deep layers of sand, gravel and boulder, pursuing the general course of the river from north-east to south-west. This water is reached everywhere at a varying depth of from twenty-five to fifty feet. I am aware that the theory is held by some that the water found under the city has its origin south-east of the city, and flows in a direction from south-east to north-west. But as I would be obliged to cross at right-angles a fall of thirty feet, according to skilled engineers, who made the survey between two points of the river a few years ago for a canal south of the city, this does not appear reasonable. However,

as will be seen, the particular source of this sheet of water does not affect the existing conditions so favorable to dangerous contamination of our well water supply. Having called attention to the water-bed from which such a large proportion of our people draw their supply of water, for both drinking and culinary purposes, through wells of an average depth of about thirty-two feet, it only remains for me to state the fact that this city is literally honey-combed with vaults carried down to this same gravel and boulder formation, within a few feet of the surface of the subterranean lake, in order that their liquid contents may drain off and float away on its placid bosom. As evidence, both of the source of this water supply and the free communication between these wells and vaults, it is a well known fact to many of our citizens, who have repeatedly observed it, that the water in the wells and the contents of the vaults both ebb and flow with the rise and fall of the river.

It is not an exaggeration to say that to every well on the corner there are, in an area of half a square, forty vaults to pollute it. During the summer and fall of 1884, it having fallen to my lot to see a great number of cases of typhoid fever in the western portion of the city, I became convinced, and announced my belief, that polluted well water was the prime factor in its prevalence. In the latter part of October our industrious and capable Secretary of the State Board of Health visited our city for the purpose of investigating the cause of the outbreak. He visited with me a number of my cases, and inspected the localities and surroundings in which they were situated. To him, on that occasion, I gave my reasons for attributing the endemic to polluted well water. Shortly after this I embodied the same views in a paper read to the Louisville Medical Society on the evening of November 7, 1884. In support of the theory that polluted well water was so largely responsible for the prevailing endemic, I stated the fact that of sixty-eight cases I had seen when the paper

was written (this number grew to ninety-six by January 1st), in the district west of Eighth street, all of the subjects, with one exception, were in the habit of drinking pump water, the one excepted doing so occasionally; and that of my patrons in the same district, who habitually used hydrant water, not one case occurred.

A medical friend practicing in the same district having seen almost, if not quite as many cases, assured me that he had not seen a solitary case in a subject who habitually used hydrant water.

I obtained an estimate of the number of cases seen in this district by ten other medical gentlemen which, with my own, aggregated about four hundred and fifty cases from July 1st to November 1st; the number doubtless reached more than six hundred by January 1st.

Special attention not having been given to the water used, statistics on this point were necessarily crude; but so far as they went they were in entire accord with my own observations.

Dr. McCormack thought the evidence against the well water sufficiently strong to justify him in making a very thorough investigation, including chemical and microscopical examinations by experts, of the waters from a great number of the pumps. The result of this painstaking investigation, embodied in his report to the State Board of Health at its meeting in this city in March, 1885, was a confirmation of my own opinions in every essential particular.

It may be argued that cases often occur in families who claim to habitually use hydrant water. But it is such a common occurrence for some of the members of such families to stop when thirsty at a convenient pump and drink, that I venture the prediction that if the investigation were made, an astonishing percentage of the subjects of such families would be found to have occasionally slaked their thirst at public wells. Bearing in mind the wonderful rapidity with which micro-organisms multiply, it does not

require any great strain upon our credulity to believe that a single glass of germ-laden water capable of producing a case of typhoid fever in a susceptible subject.

Facts so strongly condemn our well water supply as to make it our imperative duty to heed the warning, or suffer consequences it would be difficult to estimate.

It is admitted that milk may be the medium of transmission of typhoid germs. In infected districts, I doubt not, a very common and effectual agent in disseminating the poison is milk which has been received, stored and distributed in vessels which have been washed with polluted well water, thereby receiving myriads of germs to be nourished into active life by this excellent pabulum.

Of course the upright dairyman does not dilute his milk. But if such a practice should obtain in the conduct of a dairy in the vicinity of a polluted well, it is easy to see what a flood-gate would be opened for the introduction of typhoid and all other germs it might contain, into the milk distributed to unsuspecting customers. While admitting that there are other means by which the typhoid germ, or poison, if you choose, is introduced into the system, there can be no question that drinking water is the chief. And I feel justified in maintaining the proposition that our well water has been responsible for at least ninety per cent. of the cases, if not the whole of them.

The idea that filtration through gravel and sand purifies water is a fallacy, as far as the infinitesimal germ is concerned, as illustrated in the severe outbreak of typhoid in Lausen, Switzerland, in 1872. It was discovered that the disease only occurred in families who used the public water; those using water from other sources being exempt. A thorough investigation led to the discovery that several cases of the disease had occurred in a farm-house in a valley beyond the Stockhalden mountain, and the drainage from which farm went into a small stream called the Furler.

It was found that part of this stream disappeared in the mountain, and after traveling about a mile through it, emerged as the spring which constituted the public water supply of the town. That the spring was the lost portion of the stream beyond the mountain, was proven by putting a quantity of salt in the Furler, which after a time appeared in the spring. A quantity of flour was then put in the stream, but not a particle of it appeared in the spring, thus demonstrating that very thorough filtration had taken place.

The result of this investigation was proof that the fever poison was conveyed by the water through a mountain, and that no ordinary amount of filtration will separate or keep back the germs of disease.

As conspicuous examples of the part polluted drinking water plays in spreading typhoid fever, may be mentioned the epidemics which occurred at New Boston in 1843, at Munich in 1860 and 1862, at Nunney in 1872, at Gilford, Darwen and Rod Hill in 1878. Perhaps the most forcible example is that of the frightful endemic which occurred in the winter of 1884 and spring of 1885 at Plymouth on the Susquehanna river, in Pennsylvania. Of a population of eight or nine thousand, fully one thousand had the disease.

Here, again, investigation developed the fact that the dejecta from a patient on the mountain side some miles away were emptied on or near the banks of the stream that supplied the reservoir from which the public water supply of the town was drawn.

The cases all occurred in persons who used this polluted water, and none in the case of persons who did not use it.

It is due to our distinguished engineer, Col. R. T. Scowden, to say that he has informed me that several years ago he called the attention of the city council to the dangerous character of our old wells as a source of public water supply. Had the warning been properly heeded, there would have been to-day fewer vacant chairs in the

family circles of this city, and the silent majority would have been smaller by several hundreds.

The case being made out against the wells, what is the remedy?

I answer, fill up the old wells, establish public hydrants where practicable, and where not practicable, put down the drive or tube-well, as I recommended in 1884, as reducing the danger to its minimum;

The average depth of the old well is thirty-two feet; the average depth of the tube-well is about one hundred and five feet, or more than three times as great.

The average depth of the water in the old wells is about six feet; in the tube-wells the water is obtained at such depth that the pressure brings it nearly or quite to the top, or say one hundred feet.

Bearing in mind the proximity of the bottom of the vaults to the surface of the water bed; that the old well is carried down barely below the surface; that the tube-well is carried an average of more than seventy feet lower, and the deduction is plain.

The average cost of the old well is about \$125, while that of the tube-well is about \$50 more.

The expense of keeping the old well in repair is about three times as great as that of the tube-well. There is in the city one thousand and seventy-eight old wells and forty tube-wells.

To substitute tube-wells for the entire list of old wells would cost the city about \$188,250.

We have seen that in three years there is very strong presumptive evidence that the old wells have cost our people about \$157,385, a sum nearly sufficient to have supplied them with water secured at a depth of seventy feet farther removed from the filth-laden bosom of our well water supply.

I bow with reverence to the sentiment so beautifully expressed by the poet when he sang of

"The old oaken bucket, the iron-bound bucket,
The moss-covered bucket, which hung in the well;"

but must be allowed to say that the well so delightfully embalmed in song did not have the territory immediately contiguous to it honey-combed with such vile cesspools as hover around the average public well of this city.

DISCUSSION.

Dr. W. H. GALT: While I believe I am free from the suspicion that attaches to the old wells, I feel free to admit that they should be gradually substituted by the driven wells. Good reasons have been presented for that. But it seems to me that if theories concerning the development of typhoid fever from the wells be true, and we take into consideration the rapidity with which these bacteria reproduce themselves, there must be at present in the wells not only millions, but billions and billions of them. Yet the people who are using this water constantly do not take typhoid fever. We had last year about one hundred and seventy-one deaths from typhoid fever in a population of nearly one hundred and eighty thousand. If these theories were true, would not typhoid fever be now decimating our population? Since this is not true, I would like to ask these learned gentlemen what has become of those microbes?

Prof. W. J. McCONATHY: It is seldom I have the opportunity or the pleasure of participating in discussions of this character. It seems that these essays upon diseases, such as typhoid fever, and, perhaps some others, settle down as to causation to these little microbes which we fight, and they seem to have a partiality for water, and as we need water, and they need it, we have to fight them through the water, and consequently our water supply is a matter of prime consideration. So far as I can learn in the examination of our water supply heretofore, methods chiefly chemical than otherwise were relied on. We have much of science nowadays, and what it is going to accomplish for us, and it seems to me that those who have investigated the water supply from time to time have failed in doing their full duty by not employing a thorough knowledge of some of the other sciences than chemistry in making the investigations. We had an important paper last night on the subject of the geological conditions that underlie the city. Was the aid of this knowledge invoked in investigations? So far as I can learn the geological data for reaching conclusions are very few, except those that are found on the surface. We can admit that those wells that pass through clay first and down into the sand

and gravel, have the materials from those vaults that reach into the sand. Now, if we admit that this is our source of water, we should undertake to examine the water thoroughly, chemically, geologically, micrologically, and in every other manner that can throw any light upon the subject.

The gentleman in his essay a moment ago said the water in these wells ebb and flow with the rise in the river. Now, is that a fact? If it is, it does not correspond with the observations of the pump men. We are bound to agree upon this point at least, that if any deleterious material is found in the water of the public wells, that to that extent is its value depreciated; and if it is a fact that our water supply comes from a water shed whose limit is two miles away, and the vaults extend into the surface of the current as it flows into the basin, it can hardly help being contaminated to a dangerous degree.

Dr. DUDLEY S. REYNOLDS: As I have been referred to in the paper, and as I am conversant with the facts concerning the methods of these examinations, having conducted some of them, it is but just those methods should be explained. In the first place it must not be forgotten that the micro-organism of typhoid fever does not grow and reproduce itself, as Dr. Galt supposes, in water. They may enter the water and retain their vitality for a long period of time, but they do not multiply in the absence of the proper nutriment upon which they feed. That nutriment is composed of animal matter, and a temperature of 100° is most favorable for their multiplication. Cold possesses no influence upon their vitality—it only affects their activity. Heat equal to 160° F. destroys all vitality. The specific micro-organism of Cholera has been shown to be viable for sixty-five days in water, and it is destroyed by a temperature of 158° F. The micro-organisms of typhoid fever have persisted in their genetic power after a lapse of three years. As to chemical methods having been those most or wholly employed, our friend who last spoke is mistaken. The methods employed were more microscopical than chemical.

Since it is known that this micro-organism is a species of fungus, the water from the wells has been collected and placed in such conditions as to allow it to grow according to the rules for preventing any other material from gaining access to it.

These observations have been patiently carried out, both by individual investigators working in the interest of science for their own satisfaction, and under the authority of the State Board of Health.

The same means and agencies were used in

making these examinations as are adopted in demonstrating the germs of typhoid fever and other diseases found to be due to the presence of micro-organisms.

The wells at Fifth and Sixth and Jefferson were found to contain micro-organisms identical with those found in the gutter slops taken at the surface.

These observations, made of different wells, showed that, while contamination existed at times in nearly all of them, that that contamination was not constant, because, perhaps, the contaminating material is not sufficiently abundant, or because the facilities for the introduction of that material are limited or intermittent. Facts could be multiplied almost without number, gleaned from these observations, were they necessary in addition to what has already been set forth, to prove the contamination of our well water supply.

DR. D. T. SMITH: I am not one of those who keep at the head and front of the procession of new ideas. It seems to me best to observe a judicious conservatism. It is a matter of every-day experience that some man's theory, perhaps on account of his high position, which has had a high range of credence, is overthrown by some other man's observation. The micro-organism of typhoid fever can not positively be said to have been discovered, although a bacillus, known as Eber's bacillus, has been very constantly found in the blood and excretions of typhoid fever sufferers. Yet this bacillus has never produced typhoid fever when used experimentally.

There have been certain facts and observations made of epidemics of typhoid fever that render it very probable that water has been the means of communicating the contagion which produces it. The point, however, which I wish to establish is, that the mere fact of the presence of a fungus in water does not establish that the water is dangerous to life or inimical to good health. There is probably nothing that does more to clear up the impurities of water than the microbes themselves. It is only in the presence of particular kinds of microbes that we need feel our lives endangered. The purification of water is mainly carried on by these very germs. You see water in tanks; it contains some albuminoid material in it and these microbes attack it; for a few days it remains offensive, then the whole mass sinks to the bottom and the water appears purified.

All the changes that are constantly taking place about us are carried on by these microbes. We can not by any means escape from their presence, because they fill the very air we breathe.

I myself have seen typhoid fever on the plains of Texas, where the nearest neighbor was three miles in one direction and thirty or forty in the other. I have seen it in the mountains seven or eight thousand feet above the level of the sea. I am forced then to think, not that these gentlemen are wrong in coming to most of the conclusions they have reached, but that they are wrong in coming hastily to such conclusions as have not yet been conclusively demonstrated.

PROF. WM. BAILEY: For the purposes of this discussion, it is entirely immaterial as to whether or not it be established that typhoid fever is due to a specific micro-organism. Its specific history establishes the fact that it is due to a specific cause. Whether it is a micro-organism or not, the fact can not be controverted that wherever the water supply to cities has been improved typhoid fever has been diminished. Just in proportion to the improvements thus made has been the diminution not only of this, but of other diseases produced in the same way. In the epidemic that occurred in this city, which was investigated by the State Board of health, of three hundred and fourteen cases whose water supply was traced, it was found that ten had used the water from hydrants, six the water from cisterns, and two hundred and ninety-eight the water from wells.

Previous to the improvements in the water supply and sewerage of Frankfort-on-the-Main, of every one hundred thousand inhabitants eighty-seven died annually of typhoid fever, after the improvement twenty-four; one hundred and eight at Dantzic before, and eighteen afterwards; at Munich two hundred and forty-two before, and seventeen afterwards.

Such improvements as this in health records show the importance of sewerage and water supply so plain that comment is unnecessary. It is a matter of no importance to us whether our water comes from a distance of two miles or a distance of a hundred yards, so we get it uncontaminated.

Believing as I do, that there is no water safe to drink within thirty-five feet of the surface in Louisville, I am against the public well supply.

On motion of Professor MC onathy, the President appointed Drs. J. B. Marvin, D. S. Reynolds and Jas. L. Howe, a committee to make further investigations in regard to the character of the water supply of the city, with the request that they report the result of such investigations to the State Board of health.

BOOKS AND PERIODICALS.

THE PRINCIPLES
OF ANTISEPTIC
METHODS APPLIED
TO OBSTETRICAL
PRACTICE.

BY

DR. PAUL BAR,

*Accoucheur to, and formerly
Interne in the Mater-
nity Hospital,
Paris.*

Translated by Henry D.
Fry, M. D. Philadelphia:
P. Blakison, Son & Co.,
1012 Walnut Street. 8vo.
175 pages. Cloth. Price,
\$1.75.

The first chapter is a discussion of the genesis of disease, concluding with an attempt to make clear the manner in which septic germs gain access to the system through the agencies of the puerperal state. A definition of antiseptic methods is attempted in the second chapter. The technology of the subject

seems to have been derived from popular rather than scientific sources. Says Dr. Bar, at page 35, "It is more than likely that oxygenated water has an antiseptic action only on account of its richness in oxygen, which prevents the development of anærobic microbes; and we have seen that the septic vibrio is of this class." Unfortunately, Dr. Bar does not distinguish between the vibrio, which is a form of bacillus, and the micrococcus, which is a spheroidal body. Vibrio is a sort of generic term intended to designate a microscopical organism in motion, a hair-like body, a rotated cylinder, jointed, or not. It is a term used by microscopists to designate moving bacterial organisms before mycology had been sufficiently studied to enable the observer to designate different species. It is common to say cattle or stock in referring to cows, sheep, goats, horses, asses, mules, pigs, etc. In speaking of the *streptococcus erysipelas*, the term vibrio is wholly inappropriate. The qualifying adjective *only* should not be placed between the verb and its subject. This may be the fault of the translator, as it no doubt is.

Whatever may be said of the author's methods, they are in the main, practical. The style of composition is peculiar, not to

say unfortunate. For example, at page 63, appears this paragraph: "The cases cited by Hippocrates, or, rather, by his disciples, and which are attributed to puerperal infection, were, in fact, nothing else than epidemics of bilious fever, affecting puerperal women, as well as women not being in the puerperal state. One of the most ancient epidemics of which we have any history, the most ancient of all, perhaps, is that which in 1664 attacked the women who sought refuge at the Hôtel Dieu in Paris. We possess few records regarding the origin of these epidemics. We know, however, since 1664 the increased mortality in the lying-in women at the Hôtel Dieu was attributed to the proximity of surgical cases." Who of the disciples of Hippocrates may be responsible for the charge in the first sentence of this paragraph is not stated. Neither does Dr. Bar tell us the source of his information that the so-called puerperal infection "were, in fact, nothing else than epidemics of bilious fever." Continuing his subject after announcing "we know, however, that since 1664 the increased mortality among the lying-in women at the Hôtel Dieu was attributed to the proximity of surgical cases," Dr. Bar says: "Not until the year 1773 had any attempt been made to investigate carefully into the causes of the symptoms witnessed or to endeavor to contend against them. No matter what treatment was employed, all the women succumbed." It seems to the casual reader of the history of those outbreaks that the treatment of the cases was both universal and vigorous. Now, we understand the treatment of the victim of puerperal fever as being something in the nature of an "endeavor to contend against the symptoms" by which alone the presence of the fever became known. Treatment of the symptoms of a disease, the nature of which is unknown, constituted the universal practice in those times.

With the exception of the awkward style of composition, this work is destined to

find much favor with both students and practitioners. Even though the methods suggested may sometimes prove unwieldy, the great lesson of cleanliness, which it is the purpose of the author to make clear may be said to be well taught. If every physician doing obstetrical practice will consult this little manual, although the style of its composition may not please him, the lesson it teaches him shall be wholesome, and he shall be benefitted far beyond the price of the book and the time spent in its study.

LESSONS IN
GYNÆCOLOGY.
BY
WILLIAM GOODELL,
A. M., M. D.
*Professor of Clinical Gyn-
æcology in the University
of Pennsylvania, etc.*
Third edition. Thorough-
ly revised and greatly en-
larged with 112 illustrations.
Philadelphia: D. G. Brinton,
115 South Seventh St.
1887.

This, although a long time before the profession, is essentially a new book. It is substantially the lectures of Professor Goodell to the third year students in the University of Pennsylvania. To the second edition of the work new lessons have been added. To those who had the good fortune to read the critical and scholarly reviews in the American Journal of the Medical Sciences, Dr. Goodell's superior rank as a writer has been known for more than twenty years. To the smaller circle of more fortunate persons who have witnessed the skill of the master in his clinical demonstrations, this work will be more highly prized. It is not every man's province in the medical profession to attain distinction in any branch of practice; and it is not every skilled practitioner who has the good fortune like Prof. Goodell, to bring out all his special gifts, with the aid of the highest scholarly finish, in such an attractive form as that they shall become a joy to all who are able to read, and a rich mine to all who have ability to appropriate the refinements of the master's methods. Woman and Her Diseases, by the late Professor C. D. Meigs, though written for the medical profession, is poet-

ical in style, and has been for a long time the most charmingly and ably prepared book on woman and her diseases. These revised lessons of Prof. Goodell, however, are the concrete offerings of wisdom to anxious and delighted students of God's most perfect creature in her hours of affliction. Lesson XXXIX is of such a delicate nature, and yet so forcible, that we shall offer no apology for placing it in its entirety before our readers. Meantime it is to be hoped that every practitioner and student of medicine will appropriate the contents of this book.

DIFFERENTIAL
DIAGNOSIS.
A Manual of the Comparative Semeiology of the more important diseases, by
F. DE HAVILAND HALL,
M. D.,
*Assistant Physician to the Westminster Hospital.
London.*
Third American edition, re-
vised and enlarged.
Edited by
FRANK WOODBURY,
M. D.,
*Professor of Therapeutics
and Materia Medica and
Clinical Medicine in the
Medico-Chirurgical
College, Phila-
delphia.*
Philadelphia: D. G. Brinton,
115 South Seventh St.
1887. Cloth. 251
pages.

This well-known work has been so long before the profession, and, at the same time, so generally read, that no extended notice of it is necessary. The third edition has however undergone many changes and been considerably enlarged by Professor Woodbury, whose skill and ability as a practitioner rest largely upon his superior knowledge of differential diagnosis. The plan of parallel columns in tracing such analogous affections, as scrofulosis, tuberculosis and inherited syphilis, has been adopted throughout the work. It is of great value to the student, and must continue to grow in popular favor. It does not aim to cover the whole field of physical diagnosis, but it makes clear a great many hitherto obscure points. A special treatise like this is not only an essential companion for the student, but is often a valuable friend in times of great need to that unique class of specialists called "general practitioners."

CORRESPONDENCE AND SOCIETIES.

LONDON LETTER.

By our regular correspondent,

ALFRED S. GUBB, L. R.
C. P., M. R. C. S.
LONDON.

The question of compulsory vaccination has again come to the front in connection with a very ardent discussion which has been going on in the columns of the medical and secular press as to the proper explanation of the immunity of Leicester from small-pox, notwithstanding the non-enforcement of the vaccination laws. So powerful and so obstinate has the resistance to these laws been that for several years past the law has been practically inoperative. The anti-vaccinationists naturally endeavor to infer from this that vaccination is unnecessary as a preventative of small-pox, and therefore obnoxious. It is not surprising, therefore, if the statement of the medical officer of Health to the effect that the persons who came into actual contact with the isolated which did occur were systematically re-vaccinated, excited a good deal of opposition. In the end, however, this official proved his assertion to be correct, and it may be taken, therefore, that vaccination and re-vaccination are not altogether foreign to the immunity from small-pox of which the Leicester anti-vaccinationists are so proud.

Although this anti society has become possessed of a good deal of influence in all parts of the kingdom there is no reason to anticipate any radical alteration in the vaccination laws, at any rate for the present. It has been thought advisable to avoid repeated and irritating prosecutions for non-compliance in face of an organized opposition. Should a severe epidemic at any time declare itself, the hands of the executive will be strengthened and public opinion will once again approve a *mise en vigueur* of the compulsory clauses.

Every year a comparatively large number of fatal accidents are recorded, to domestic servants and others engaged in window cleaning. The ordinary window in England is

the sash or "guillotine" window, to clean which necessitates a serious risk being incurred. Over and over again suggestions have been made with the view of inducing builders to adopt one or another of the models which have been invented to obviate this very avoidable risk, but so far without result. Some day, perhaps, a little pressure of a more practical kind may be brought to bear on this Pharaoh-like and conscienceless guild, and in the meantime skulls must continue to be fractured and backs broken in the pursuit of cleanliness and order.

The medical societies of London have opened their doors and work is in full swing. The earliest meetings are always well attended, affording, as they do, an opportunity for men to meet and exchange notes after the idle summer months, when medical work of the higher kind seems to be in abeyance so far as outward appearances go. The paper read by Dr. Hughlings Jackson, President of the Medical Society, on the "Physiology of Joking," will be sure to attract attention if only on account of the taking title and the eminence of its author. Of more practical moment was the discussion at the Clinical Society on three cases of laparotomy for peritonitis. This method of procedure which strikes one as somewhat bold has been attended with the most brilliant success; so much so indeed that it may henceforth be looked upon as the only rational treatment (1) in cases of suppurative peritonitis and (2) in cases of tuberculous peritonitis. As regards the former it is evident that the same rules which apply to the treatment of suppuration in severe cases elsewhere must apply here with an emphasis in proportion to the gravity of the prognosis. Somewhat more startling are the results obtained in tubercular peritonitis. Opening the abdomen and sponging out the peritoneal cavity in many cases not only relieved the symptoms due to mechanical causes, but had a very favorable effect on the local and general manifestations of the disease. When the peritoneum has been subjected to chronic inflammation

and changed, it is far less apt to resent operative interference. There was a difference of opinion among the speakers as to the necessity of draining the cavity after operation. Dr. Barwell, of Charing Cross Hospital, thought it unnecessary in most cases and was unable to understand how a drainage tube from the front could drain a cavity with the patient on the back. Dr. Frederick Treves and others on the contrary insisted on proper drainage as an essential feature of the operation.

It may not be without interest to your readers as showing how the recent legislative enactments for the better protection of women may operate, to relate the case of a young man who was convicted in March last of a criminal assault on his "sweetheart" for which he was awarded five years penal servitude. He was alleged to have taken the girl (a ballet dancer) home to his lodgings to supper and stupefied her with copious libations of gin, prior to committing the assault complained of. Nothing was said by the girl for several weeks, and it was only when the young fellow declined, under threat of criminal proceedings, to marry her that the action was brought. The prisoner, on oath, denied the offense complained of. The scandalous verdict naturally excited a good deal of comment, and the prisoner has now been released. We shall shortly need some legislation for the defense of men against charges by artful and designing women who use the law as a means of extorting money or of getting married.

It is a melancholy task to have, week after week, to register the occurrence of deaths under chloroform. Experts in the production of anæsthetics have lifted up their voice again and again in protest against the indiscriminate use of so dangerous an anæsthetic as chloroform when there are others at hand, equally efficacious and reliable, and infinitely less dangerous. Notwithstanding their exhortations and the constant recurrence of fatal accidents in its use, chloroform still continues to be the anæsthetic most frequently

administered outside, if not inside, the hospitals. It is high time that some more effectual protest should be made against what cannot but be considered an abuse. It is little less than scandalous that considerations of convenience or economy should be permitted to influence the practitioner in his choice of an enæsthetic and his responsibility in case of accident ought to be brought home to him.

The members and Fellows of the Royal College of Surgeons of England are making desperate efforts to secure a voice in the management and administration of the corporation. This College, whose rolls are illuminated by such names as Harvey, Hunter, etc., is managed on a plan which savours of the old close corporation system. An arbitrary council, elected only by the metropolitan Fellows, arrogate to themselves a despotic right over the funds and future of the College, and this in spite of the most vigorous opposition on the part of their own *alumni* who number about 18,000. The College has come into possession of enormous wealth (£200,000 by a single legacy) and it is determined that the council shall not be permitted to squander such vast resources in bricks and mortar, to construct residences for their pampered officials and add to the unwieldy collection of pathological specimens.

WHAT IS
MEATOTOMY?
BY
HENRY ORENDORF,
M. D.

Professor of Materia Medica, Therapeutics, and Genito-Urinary and Cutaneous Diseases in the Kentucky School of Medicine.

A layman propounds to a medical journal of extensive circulation the following question in reference to meatotomy: "Is it scientific for a surgeon to advise a layman to undergo an operation for which there is no published

authority, and of which the only papers written by physicians are condemnatory?"

The author of this question does not know the difference between a physician and surgeon as regards *authority* on a given subject.

To consult a physician is to get medical advice. To consult a surgeon is to get surgical advice. To consult a special surgeon is to get special surgical advice pertaining to that specialty alone. Why does this layman presume to offer a criticism on an operation about which he knows nothing except what he has heard *Physicians* say? Any one can give an opinion, but opinion is not authority unless it comes from an authorized source. Mistakes are made by surgeons as mistakes are made by civil engineers, which should but stimulate both to acquire greater exactness in judgment. What, then, is meatotomy? The meatus urinaris proper is the vertical fissure bordered by its labia and its superior and inferior commissures. This is all there is of it; it goes no further. Now, to enlarge this by division is meatotomy proper and nothing else. Division here is not needed unless the meatus is abnormally small or of the pin-hole variety—congenital or transmatic—as the ordinary meatus is elastic and accommodates itself to the size and force of the urinary stream. The point of initiation and contraction which causes direct and reflex disturbances to such a degree as to call for surgical interference there is not meatie as a rule, but post meatie or urithral, as pointed out by me in an article on “Reflex enitation in Genity-Urinary Diseases,” published in *Progress* for October of last year, in which I say, describing the part to be divided. “By meatic stricture is meant the point within the urethra where the bulbous sound arises anteriorly out of the fossa navicularis.” That is to say, the part between the fossa and meatus proper, not including either, and which operation correctly and properly speaking is urethrotomy and not meatology, because it is beyond the meatus and within the urethra proper. So that when urethratomy is correctly done *the meatus proper is not divided nor interfered with*. Indeed, upon after inspection, the meatus is seen to be intact, the division having been made posterior to it as is shown by the white lines when the labia are well separated.

Now, to avoid such criticism as the above upon so needful an operation, and which criticism injures the whole profession in that it lessens that confidence reposed in it by the laity, I submit that:

1. The operation should not be performed except by those who have made it a study and who thoroughly understand the existing *pathological* contraction and *where it is situated*, that the proper division may be done which restores the organ to its original physiological functions.
2. The operation should not be performed with scissors.
3. The operation should not be performed with the bistorny.
4. The operation should not be performed by those who have heard that the meatus should be divided, and proceed to divide it with whatever is at hand.
5. The operation should be performed with a proper urethratome, gently and carefully dividing the necessary tissue between the fossa and meatus, not including either.
6. It is the abuse of a very necessary and important operation, incompetently and bunglingly performed, which brings it into disrepute and adverse criticism.

W.G. OUCHTERLONY,
M. D.

On the 10th of
November, 1887, Dr.
Wm. G. Ouchterlony

died suddenly. He had been carefully educated in the schools of Louisville, and at the University of Michigan. He took the degree of M. D. at the University of Louisville in March, 1886, and went abroad a few weeks later as a correspondent for *PROGRESS*, and to walk the Hospitals of London. Our readers will recall his well written notes of important discussions at the Medical Societies of London. He returned home late in the season last year, and went at once in to practice in his father's office. He enjoyed the confidence and esteem of a wide circle in the best society of Louisville. The profound shock of his sudden demise has prostrated his parents with grief. They have the sympathy of the entire profession, and of the community at large.

PROGRESS

A MEDICAL MAGAZINE. ISSUED MONTHLY

DUDLEY S. REYNOLDS, A. M., M. D., EDITOR.

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THE WORKING ELEMENT OF THE MEDICAL PROFESSION.

In his annual address to the Louisville Medical Society, the retiring President, Prof. Wm. Bailey, thought about one fourth of the

entire membership of a medical society constitutes its working force. In a mixed or general society this statement will hold good; but in those associations which are divided into sections for special work, the greatest activity may be found. Nowhere may this be more fully illustrated than at the annual meetings of the American Medical Association. At the general sessions there are present generally from three to five hundred members, whilst the registration books showed at the late meeting, held at Chicago, more than twelve hundred names. Now, in the meetings of the section on surgery, there were constantly more than one hundred and fifty present, sometimes twice that number. The section on general medicine was said to have been attended by from two to five hundred. Nearly as many attended the section devoted to obstetrics and gynæcology. The ophthalmological section was attended by from eighty to one hundred and fifty each day, there being seldom less than forty present at any time. This, to our mind, clearly indicates the importance of a division of work. The medical society is a

place where an interchange of views takes place to the mutual advantage of all. An old practitioner, who had long been a devotee of medical societies, recently said: "I am a general practitioner; I never treat diseases of the eye except it be some simple case which I feel I am entirely able to manage; but I learned in the course of a discussion at one of the meetings of the ophthalmological section of the American Medical Association that many chronic diseases of the eye are constitutional in origin, and require little or no local treatment. I learned there also how to treat tertiary syphilis. At the section on state medicine, the ætiology of tuberculosis was discussed. In fact, I have concluded medicine must be studied like the rudiments of a common English education. The specialists are to be our teachers in every department; and, however much we may be disinclined to own it, it is true that the general practice of medicine is generally restricted to the treatment of general systemic diseases confined to a somewhat restricted class of acute affections."

A SENSATIONAL EXPOSURE.

In the New York Commercial News of November 26th, ap-

pears a somewhat startling announcement, that the firm of Lehn & Fink have been guilty of counterfeiting both the labels and the goods of the celebrated manufacturing pharmacist, Mr. E. Merck, of Darmstadt.

Mr. Weicker, in an interview with a *News* reporter, says: "I was sent here to make a personal investigation into the facts of the case. Almost immediately after my arrival, I interviewed Mr. Fink, and gave him proof of our knowledge that his house was counterfeiting the Merck labels and goods. The explanation made by him was not satisfactory. The two partners of the firm were arrested and held for trial in the Court of Special Sessions before Judge Kilbreth. We seized a quantity of the counterfeited labels on the premises of Messrs Lehn & Fink, and these are now in evidence before the Court,

The firm had put up inferior goods of other manufacturers, and even adulterated goods, under Merck's lable and seal."

It is but a short time ago since the now notorious stenocarpine was sent out over the country with the lable of Messrs. Lehn & Fink, who, on account of their long established business as importing agents of Merck's, and other similar goods, had acquired a reputation in the medical profession. It may be possible, in the course of the legal proceedings now going on at New York, that the great discrepancy of opinion as to the value of iodol has been due to the fact that in this country we have mainly depended upon that which bears the name of these celebrated importers, and which, in all probability, they had adulterated. Certainly, the profession abroad have a very different estimate of the value of iodol from that placed upon it by the profession in this country. It is absolutely necessary to protect the profession and the public against such frauds as are charged in the legal proceedings against Messrs. Lehn & Fink.

It is to be hoped that the trial of this case will serve as a warning to others who have felt at liberty to indulge in adulterations, substitution, and other similarly dishonorable practices.

A few months ago the editor of PROGRESS had occasion to renew his supply of cocaine when it appeared comparatively worthless. A supply purchased from another house, though bearing the mark of the same manufacturer, proved quite efficient. Meantime, it may be noted that the samples of cocaine which have a brownish tint act most powerfully and promptly in producing local anaesthesia, whilst those samples which are very dry and white, have seldom proved satisfactory. The habit some physicians have of purchasing solutions of cocaine, and other similar drugs, is an unfortunate one. It is far better for their own reputation and the good of their patients, that each practitioner should have at hand a quantity of distilled water, and make his own solutions of

cocaine; or that he should prescribe the desired solution, and have it made fresh by a neighboring apothecary.

Whenever a jobbing or wholesale house offers such drugs as cocaine for sale in solution, it is well to remember the English gentleman who chanced to stop at a restaurant at Knoxville, Tenn., some years ago, and, ordering his eggs hard boiled, the waiter remonstrated and advised him to have them scrambled. Whereupon the Englishman flew into a passion and demanded the eggs as first ordered. The servant then, with great earnestness, leaned over and whispered into the Englishman's ear, "I say, boss, you'd better have them aigs scrambled, case dey ain't very fresh, you know, and dey won't look well biled, and if you git em scrambled, dey look all right."

CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS.

The most amusing notice which has appeared of a medical society, is that which is announced as "A Congress of American Physicians and Surgeons." The so-called Congress, according to a meeting held in the Hall of the College of Physicians, at Philadelphia, on the 5th of October, is to be made up of those societies, or medical clubs, in a few of the Eastern cities, which have arrogated to themselves the title, "American." The representatives of this American Congress are the well-known kickers against the organization of the Ninth International Medical Congress; and, as a reward of merit, the presidency of the so-called American Congress has been bestowed upon "JOHN S. BILLINGS, M. D., LL.D., U. S. A., of Washington, D. C." That the readers of PROGRESS may understand fully who are to be the chiefs of all the tribes of the Kickapoo nation, we append the following list of warriors bold with the names of the tribes they represent:

American Surgical Association, Dr. Claudius H. Mastin, of Alabama.

American Otological Association, Dr. Cornelius R. Agnew, of New York.

American Ophthalmological Association, Dr. D. B. St. John Roosa, of New York.

American Laryngological Association, Dr. J. Solis Cohen, of Pennsylvania.

The American Rhinological Society contains so many Western men it was deemed inexpedient to ask it to take part.

American Neurological Association, Dr. L. Carter Gray, of New York.

American Dermatological Association, Dr. I. E. Atkinson, of Maryland.

American Climatological Association, Dr. A. L. Loomis, of New York.

The American Association of Genito Urinary Surgeons, Dr. John P. Bryson, of Missouri.

American Association of Physicians, Dr. Wm. Pepper, of Pennsylvania.

A Committee was organized by the election of Dr. Pepper as Chairman, and Dr. Bryson as Secretary.

It was decided to hold the Congress of 1888 in Washington, D. C., on Tuesday, Wednesday and Thursday, September 18th, 19th and 20th, respectively. The sessions of the Congress will be held in the evenings, leaving the mornings and afternoons free for the sessions of the special societies participating.

The following officers of the Congress were elected:

President.—John S. Billings, M. D., LL. D., U. S. A., of Washington, D. C.

Vice Presidents.—The Presidents-elect of all the participating societies.

Treasurer.—Dr. W. H. Carmalt, of Connecticut.

The arrangement of the programme for the sessions of the Congress was referred to the President, the Secretary and the Chairman of the Executive Committee.

The American Gynæcological society refused to take part, and adjourned to meet at Boston, Mass., the third Wednesday in September, 1888.

If they cannot get possession of the legitimately organized International Medical Congress, and if they cannot take charge of the American Medical Association, which represents all the States and Territories of this country, they will take up the little medical clubs of the East and paint the word "American" upon their banners, and strut out before the world as Paddy, the Weaver of Dulek Gate, who, seeing a lot of flies in a plate of mush, imprisoned them

all with a blow of his fist, and forthwith had a tin jacket and breastplate made, upon which he had painted the following proclamation: "*I am the man of all men; I killed three score and ten at one blow!*" He stole the miller's horse, and rode out with a stewpot on his head for a helmet, determined to storm the castle of the King of Dublin, and thus conquer all Ireland. The chiefs of the Kickapoo tribes have only to get their banners in order and place their stewpots upon their heads, for they have no doubt slaughtered great numbers of flies. Hence they may assemble and call it "A Great American Congress of Physicians and Surgeons," or anything else they please, provided only that it pleases them. If they are not indeed the great masters in every branch of the medical profession in this country, it seems like cruelty to tell them of their delusion. The elements of the proposed Congress may be made up of conceited, though active, little creatures, yet the union of those cannot fail to constitute a *great Congress*. It is fitting, therefore, that it should have a presiding little chief with the ominous title, "M. D., LL. D., U. S. A.; D. C."

THE DONDEERS'

MEMORIAL

FUND.

We are in receipt of a circular signed by a large number of the most distinguished members of the medical profession in the Netherlands, besides a large number of statesmen and high officials, announcing the purpose to raise a fund to be known as "the Donders' Memorial Fund," which shall be devoted to a scientific purpose with the advice and consent of Prof. Donders, whose seventieth birthday is to be celebrated on the 27th of May, 1888. Prof. Donders has held his present office in the University of Utrecht, and Director of the Physiological Laboratory in that institution, for more than forty years. The writings of this great master have placed his name on the roll of the most distinguished of the original exper-

imenters and teachers. His work on physiology, published in 1850, is in many respects up to the latest advances of the present day, whilst his great work on the Anomalies of Accommodation and refraction of the Eye, must ever remain a standard textbook in that field. It is to be hoped that of those American physicians who have enjoyed the rare advantage of a personal acquaintance with this great master, some, at least, will come forward with contributions to the memorial fund. Donders is a true cosmopolitan in the scientific world, and no nation should be permitted to enjoy the exclusive privilege of celebrating the seventieth anniversary of so great a name. The fund is to be devoted to an extension of the original work done in the University of Utrecht in the field which Prof. Donders has so ably cultivated. It will be, moreover, appropriated by the advice and consent of the great man in whose honor it was raised. It is, in fact, to be a contribution to experimental science in a department which interests every medical man in the world.

THE MEDICO-
CHIRURGICAL
COLLEGE OF
PHILADELPHIA.

The question of higher medical education has been agitated from time to time until it has taken firm root at certain institutions in different parts of the country. Much of the encouragement which has been offered institutions entering upon such a course has been derived from legislative enactment in different States of the Union. At the Medico-Chirurgical College of Philadelphia, a three years graded course is required, including clinical and laboratory instruction. The last legislature of Pennsylvania appropriated twenty-five thousand dollars to aid in the erection of a new hospital for the Medico-Chirurgical College, on the ground that Philadelphia was losing prestige as a medical center; that the high standard of qualification formerly exacted in that me-

tropolis had for a long time been on the decline. It was determined, therefore, to aid the new school in reclaiming the lost prestige of Philadelphia as a center of medical education. It would seem there is a substantial reason for encouraging the Medico-Chirurgical College, from the fact that the executive Council of the Alumni Association of the Jefferson Medical College have petitioned the faculty of that institution to increase the facilities and improve the methods of instruction, lest the prestige of that school shall continue to suffer in public estimation. The Jefferson Medical College is indeed unfortunate to have provoked such action from its alumni. The action of the alumni association shows plainly that the policy of that school and the character of the instruction it offers must not be permitted to degenerate so as to reflect discredit upon those who in former times attended its instruction. It has been said that the alumni make the character of a school; but in this case it seems the alumni feel that the school must also mend its character. We regard it as a good sign of the growing disposition to hold the medical colleges of the country up to the most recent advances in methods of instruction and the highest standard of practical utility in the character of that instruction. There can be little doubt that the Medico-Chirurgical College is growing in public confidence; and while the University of Pennsylvania may be holding its own, the Jefferson College, under its present management, is, no doubt, beginning to feel both its own inefficiency and the effect of that antagonism the members of the present faculty exhibited towards the American Medical Association and the profession in the South and West. The overweening desire of some of the brethren in Philadelphia and New York to impress the medical world with their own greatness, and the utter incompetency of the rest of the profession to conduct the preliminary organization of the Ninth International Medical Congress is beginning to bear its legitimate fruitage.

PROGRESS

A Monthly Magazine for Students and Practitioners of Medicine.

"I HOLD EVERY MAN A DEBTOR TO HIS PROFESSION; FROM THE WHICH AS MEN OF COURSE DO SEEK TO RECEIVE COUN-
TENANCE AND PROFIT, SO OUGHT THEY OF DUTY TO ENDEAVOUR THEMSELVES, BY WAY OF AMENDS, TO BE A HELP AND
ORNAMENT THEREUNTO. THIS IS PERFORMED, IN SOME DEGREE, BY THE HONEST AND LIBERAL PRACTICE OF A PROFES-
SION; WHEN MEN SHALL CARRY A RESPECT NOT TO DESCEND INTO ANY COURSE THAT IS CORRUPT AND UNWORTHY THEREOF,
AND PRESERVE THEMSELVES FREE FROM THE ABUSES WHEREWITH THE SAME PROFESSION IS NOTED TO BE INFECTED; BUT
MUCH MORE IS THIS PERFORMED, IF A MAN BE ABLE TO VISIT AND STRENGTHEN THE ROOTS AND FOUNDATION OF THE
SCIENCE ITSELF; THEREBY NOT ONLY GRACING IT IN REPUTATION AND DIGNITY, BUT ALSO AMPLIFYING IT IN PROFESSION
AND SUBSTANCE."—BACON.

VOL. II.

LOUISVILLE, KY., DECEMBER, 1887.

No. 6.

GENERAL MEDICINE.

PSEUDO-MEMBRAN- OUS CROUP.

BY
T. B. GREENLEY,
M. D.,
West Point, Ky.

At the April meet-
ing of the "Hardin
County Medical So-
ciety," 1886, I read a
paper, reporting my
experience in the treat-
ment of inflammatory

croup. The paper was published in the
Practitioner and News, May 29, 1886. In
that report I stated that I cured only one
case in 30 years, and that was by treatment
instituted by Dr. Horace Green, of New
York, in 1847. This consisted of intro-
ducing a strong solution of nitrate of silver
into the larynx by means of a small piece
of sponge attached to the end of a whale-
bone probang. The agony and death throes
of the child which resulted from this appli-
cation were such that I never had the
courage to repeat the experiment. Then,
after a long series of bad luck, I instituted
an alterative plan, and reported six cases
cured. This plan consists of very simple
means, and easily applied.

Since my report as above stated, I have
seen two cases more of the disease, which
I reported as follows:

October 25, 1886, was called in consult-
ation to a child of Mr. W——, aged 2 years.
It was under the care of Dr. McCarty, of
Spottsville, Ky., who happened to be on a
visit to his cousin, Mr. W——, of Meade
Co. I found the child breathing with some
difficulty, presenting the various phenomena

of membranous croup. The temperature
was only 2° above normal. The doctor,
who, by the way, is a clever gentleman,
and stands well as a practitioner, had been
using the ordinary means in the manage-
ment of the case, without any apparent
amelioration of the symptoms. I advised
the use of the remedies as reported in my
six successful cases, to wit:

R. Hydrg. Sub. Mur. gr.-1/2
Ammonü Chloridi gr. j

every 2 hours, in conjunction with cloths
wrung out of hot water, applied over the
trachea and larynx. The child did not im-
prove in any particular, and died the next
morning. Of course, in this instance, the
remedial agents had scarcely time to attest
their alterative effect.

Case 2. October 23, 1887, was called in
haste to see a child of Mr. A——, aged 22
months. All the symptoms of threatened
trachael stenosis was present, with loss of
voice. The child had been comparatively
peart the day before, but somewhat fever-
ish and restless, with a wheezy cough
and some rattling in breathing. These
symptoms were greatly exaggerated on
the day I was called. The parents
had given it syrup of ipecac, sufficient to
vomit it freely, expelling a quantity of
tough, ropy mucous. Temp. 101.5° F.
I prescribed;

R. Hydrg. Sub. Mur. gr.-1/2
Am. Chlo. gr. j

to be repeated at intervals of 2 hours. Ap-

plication of cloths wrung out of hot water over the trachea and larynx, frequently changed. Temperature of the room to be kept at summer heat.

24th. Symptoms about the same as yesterday. Medicine has acted on the bowels, and for fear of excessive catharsis reduced the calomel to gr.- $\frac{1}{4}$. The child not improving, the parents had their relative, Dr. Applegate, called to see it early in the morning. He concurred in the treatment, and suggested in addition, 2 drops Tinct. Ferri Chlo. every 2 hours with the other medicine.

25th. The symptoms are much more favourable, breathing without much effort. Vomited pieces of membrane considerably softened. Temp. about normal.

26th. Nearly relieved; inclined to play with its sisters, and relishes its food. Directed the powder continued till the 27th. —Dismissed.

As remarked in my report last year, I cannot give the rationale of the treatment only on the hypothesis of its alterative effect on the exudative character of the blood. The object of the heat and moisture to the trachea and larynx is to produce relaxation of the parts so as to favor easy respiration. It is of very special interest to keep the room at a regular and pleasant temperature.

Had I possessed the instruments and been an expert in their use, I would have intubed the larynx in the first of the above cases. But I believe but little good can be effected by the use of the tube in membranous croup, as the stenosis is as great in the lower part of the trachea as the part the tube would occupy. Hence, after the membrane is thoroughly formed and seriously threatens stenosis, I do not believe either intubation or tracherotomy would effect a favorable result. It is only in cases of croup, resulting from extension of diphtheritic exudation into the larynx, that either of these operations promise beneficial results. As to the performance of the two operations, I think tracheotomy the easiest

to any one but an expert in the use of the tube, although the latter does not look so formidable to the parents and friends, and their consent can be more easily obtained. Either one of these operations performed in time promise favorable results in diphtheritic croup in about 20 to 25 per cent.

THE PNEUMATIC
RESISTANCE
VALVES.
BY
SOL. SOLIS-COHEN,
A. M., M. D.,
PHILADELPHIA.

The great desideratum in the pneumatic treatment of pulmonary disease has been a cheap and portable apparatus.

Some four years ago I presented to the profession an apparatus combining the bellows and gasometer plans, which has since been used with great satisfaction by many of my co laborers as well as by me. Simple as this instrument is, and although nothing better has yet been suggested, it still falls short of the ideal apparatus for home use by patients; and further experimentation has convinced me that if we confine our attention to *facilitating* the respiratory act, we shall not be able, until some new form of force is discovered, to produce either a cheap or a compact instrument that will be really serviceable, as the expenditure of force against atmospheric pressure is needful in both phases of the act of respiration, and machinery capable of developing the necessary power—if only a foot-bellows—must occupy more or less space and be more or less expensive.

For office use, however, and for home use by patients who need to be assisted to respire, I still prefer the Cohen-Richardson apparatus as being equally efficient with any, while simpler, neater, smaller, cheaper,* and more convenient than any other reliable instrument with which I am acquainted.

For use by patients who possess a suffi-

* It costs, complete, about thirty dollars.

ciency of unimpaired lung tissue, and who preserve the power of muscular exertion, I have had an apparatus made which produces the desired physical and physiological effects by *opposing* the patient's respiratory efforts. Thus the necessity for any apparatus to supply power is avoided. We introduce into the current of respired air a measured impediment which acts synergistically with atmospheric pressure, and the patient's muscles supply the power to overcome both. We thus strengthen the respiratory muscles by exercise qualitatively appropriate and quantitatively regulated. We prolong the affected phase of respiration, rendering it more efficient, and during the entire period of performance differentiate, between the pressure upon the pulmonary surface and that upon the general periphery, producing the well-known mechanical effects of such differentiation.

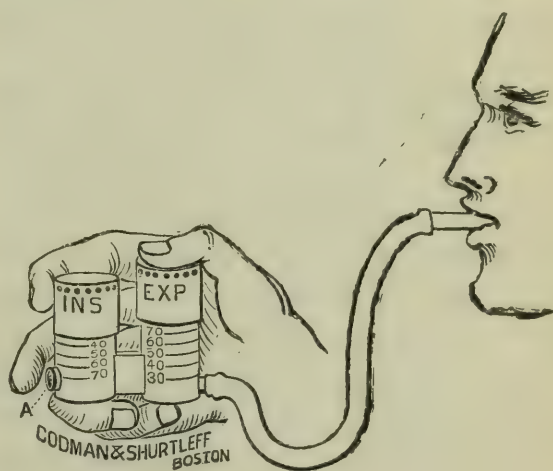
Inhalation, being resisted by a spring-valve adjusted to any desired pressure, is performed as from a partial vacuum. The chest-walls are expanded beyond the ordinary range, and the contained air of the lungs is rarefied to a degree beyond the ordinary negative pressure (-1 mm. Hg), equivalent to the tension of the spring by which the entrance of air is opposed. When, by the diminution of air-pressure on the thoracic side of the valve, atmospheric pressure upon the external side is left free to act, the air enters the lungs, and is there rarefied by the further expansion necessary to maintain the current, for as soon as pressure upon the thoracic side loses its (extra) negative quantity exactly equal to the positive quantity of the spring, the latter prevents further ingress of atmospheric air. All the air between the valve and the pulmonary capillaries is, therefore, rarefied air, and its degree of negative pressure is regulated by the degree of positive pressure represented by the tension of the spring. The latter is regulated by a screw.

Exhalation, being resisted in a similar manner by a spring valve, is performed as

into a denser atmosphere. An increased muscular effort is necessary in order to contract the chest upon the contained air, and by condensing it, overcome by positive pressure the resistance of the valve. All the air between the valve and the pulmonary capillaries is, therefore, compressed to a degree (in excess of the ordinary positive pressure of $+2$ to 3 mm. Hg) equivalent to the tension of the spring; and the contraction and necessary effort must be continued throughout the act in order to maintain the current.

If, then, we represent atmospheric pressure by P , the tension of the spring (and friction) by S , and the ordinary positive or negative pressure of respiration by $\pm R$, the pressure within the thorax during inhalation will be $P - R - S$, and during exhalation $P + R + S$, or, disregarding the constant $P \pm R$, the alteration of intra-thoracic pressure during inspiration is $-S$, and during expiration $+S$.

The instrument manufactured for me by Messrs. Codman & Shurtleff, of Boston (shown in the figure), is an improvement upon the rough sketch submitted to them, and I desire to acknowledge their many courtesies.



It consists of two small hollow cylinders of metal, closed in air-tight at the bottom and open at the top, where they are covered by cylindrical caps, communicating by a row of perforations with the atmosphere. The two cylinders communicate at the bot-

tom by means of a junction-tube connecting them antero-posteriorly, and the caliber of the tube is prolonged beyond the posterior cylinder into a nipple upon which fits a rubber tube with a mouth-piece. The anterior cylinder is perforated at the front, opposite the junction-tube so that a free passage to and from the mouth-piece and atmosphere is thus afforded. Above the level of the junction-tube in each cylinder is an ebonite valve, pressed upon by a spiral spring connected with the cap. In the anterior (inspiratory) cylinder the valve will yield to downward pressure sufficient to overcome the tension of the spring. In the posterior (expiratory) cylinder it will yield to upward pressure. The tension of the springs may be regulated by turning the caps. It is increased by descent of the cap in the expiratory valve, by ascent in the inspiratory valve.

A scale on the outside of each cylinder shows the pressure-equivalent of the spring-tension (and friction) in fractions of an atmosphere, from $\frac{1}{70}$ to $\frac{1}{30}$.

The size of the metal work, when the caps are screwed down, is only two inches by two inches and a half by one inch. A convenient length for rubber tube and mouth-piece is about ten to twelve inches. Each patient should purchase an instrument for his own use, as the cost is but trifling.* With the one intended for office use, in preliminary observations, a number of mouth-pieces should be obtained. The instrument may be cleansed with running water, not warm, however. Boric acid may be added to the wash-water if desired.

If the cylinders be held in the hand and the mouth-piece taken between the lips, there are three possible channels of communication through the instrument between the lungs and the atmosphere.

1. In either phase of respiration; Below the valves, through the junction-tube and anterior perforation.

If the latter is occluded by the finger, the air can pass:

2. *Into the lungs through the anterior cylinder, by depressing the valve, to accomplish which the intra-thoracic air-pressure must be lowered.*

3. *Out of the lungs through the posterior cylinder, by elevating the valve, to accomplish which the intra-thoracic air-pressure must be raised.*

To use the instrument, the spring of the desired valve is adjusted by turning the cover until its lower edge corresponds with the mark upon the scale representing the pressure to be employed. The finger is placed over the opening during the phase of respiration to be affected and removed during the opposite phase. When both phases are to be affected both valves are adjusted and the finger is kept over the opening during the entire act. It is not necessary to hold the nostrils.

The physiological effects of inspiration of rarefied air, briefly stated, are:

The normal effects of inspiration exaggerated.

There is increase of the muscular effort necessary to produce expansion of the chest, of the time necessary to complete the act, and of the volume of air necessary to be inhaled to furnish a sufficient weight of oxygen. If the requisite effort can be made, there is increase in the elastic tension of the lungs and in the volume of tidal air. The subsequent contraction of the chest is at first passively facilitated, afterward impeded from resistance of the denser outer air. Pulmonary ventilation and gaseous exchange are, on the whole, increased, vital capacity augmented, and the muscles of inspiration strengthened. Thoracic aspiration being increased, the blood tends at first to leave the periphery and accumulate within the thorax, but as more blood than usual is delivered to the left ventricle, and this is able to contract with sufficient degree of force to overcome the higher peripheral pressure, the final equilibration is estab-

* Four dollars,

blished by a quickening of the circulation, with an increase in the fullness, blood-pressure, and musculo-elastic tension of the arteries.

Expiration into compressed air likewise exaggerates the normal effects of expiration.

The act being impeded, increased muscular effort becomes necessary; the time is prolonged, and, provided there is sufficient muscular power to overcome the obstacle, a greater volume of air is exhaled.

If the power is insufficient, the volume of tidal air becomes gradually diminished in both phases of respiration, subsequent inspirations being rendered shallower. The excursions of the diaphragm of the thoracic walls become less and less, but at the expense of contraction, fixed expansion being finally maintained, and, if the procedure is pushed to excess, apnoea may result. Pulmonary ventilation is diminished, and gaseous exchange is retarded. But, although the excretion of CO_2 is diminished, the absorption of O by the hæmoglobin is said to be facilitated.

When, however, the amount of muscular effort sufficient to expel the ordinary volume of tidal air can be exerted, pulmonary ventilation and correlative effects are increased. In either case, the ultimate effect is increased power in the respiratory muscles, increased thoracic expansion, and increased vital capacity.

The blood is expelled from the chest and forced toward the periphery. Cardiac dilatation is antagonized, systolic contraction is aided. The heart and lungs are therefore depleted, and the systemic vessels, especially the veins, overfilled. Unless the subclavian artery be compressed by the employment of too great a pressure (in which case the pulse may disappear), the pulse becomes slower, full, and hard.

The effects, then, are similar to those obtained in Valsalva's and Mueller's experiments, but less in degree, owing to the lesser pressure. In Valsalva's experiment with forced expiration there is an average

pressure of $+87$ mm. Hg., and in Mueller's experiment with forced inspiration there is an average pressure of -57 mm. Hg. With the pneumatic resistance valves, as here constructed, the possible range of the apparatus is only $+10.8$ to 25 mm. Hg.

Here, then, lies the chief advantage of the apparatus over such instruments as "Dobell's residual air-pump" and others utilizing the same principle, as well as over simple voluntary forced respiration, in that it allows the pressure to be accurately adjusted to the requirements of the case.

It will also be seen that such undesirable disturbance of the circulation as might be caused by the employment of either valve may be neutralized by the use of both, in which event we would then have an *exaggerated respiration in both phases*, increasing synergistic effects and neutralizing antagonistic ones.

The therapeutic applications will be chiefly in cases of asthma, chronic bronchitis, emphysema, incipient phthisis, chronic pleurisy with effusion, and dilated heart. As a measure of regulated pulmonary gymnastics, I anticipate for the instrument a useful place in the hygiene of ill-developed children and adolescents, more especially in the prophylaxis of phthisis.

The times, duration, pressure, choice of valves, etc., will vary with the circumstances of the individual cases, and no hard-and-fast rule can be given.

Speaking very generally, I should say that from twenty-five to one hundred inspirations, one, twice, or three times a day, would express the usual range. In asthma both valves should be employed, but with a greater expiratory than inspiratory pressure, the object being to prolong the acts, to confine the air in the chest, and to relax spasm.

In chronic bronchitis, pleural effusion, incipient phthisis, and dilated heart, where the exercise of pressure upon congested vessels, unused alveoli, inflammatory products, or cardiac chambers is the object, the

expiratory valve will, as a rule, be preferable.

In emphysema the use of the inspiratory valve seems to be indicated as a means of diminishing the intra-alveolar pressure, and permitting such contraction as may still be possible. As a measure of respiratory gymnastics, the employment of both valves will usually be indicated.

As before stated, however, the personal and pathological equations must be studied independently in each case, and the treatment modified accordingly. As in the employment of any other powerful agent, intelligent discrimination and caution will be necessary. That which, properly used, is productive of good may be even more productive of harm if used improperly. It is hardly necessary, but it may be as well, to add that the resistance-valves are offered to the profession, not as embodying any new mechanical or therapeutical principle, and not as being capable of doing anything more than experience has shown can be legitimately alleged for pneumatic treatment, but as a cheap and convenient instrument, which may be with safely intrusted to an intelligent or obedient patient, who, if he does not thus receive a pocket climate, is at least placed in position to obtain some of the benefits of pneumato-therapy.

<div>MASSAGE IN SCIATICA. <i>The Weekly Medical Review.</i></div>	<div>A. Symons Eccles, in a paper published in the <i>Practitioner</i> records cases of sciatica cured by massage, rest and position, and thinks that many cases can be cured by these procedures alone. He states that in cases of neuritis, in which the pathological conditions are great distention of the blood vessels and lymphatics of the epineurium and corresponding dilatation of the perineuritic lymph-spaces, it is not unreasonable to suppose that much of the acute suffering of sciatica is due to the pressure of the abnormally in-</div>
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creased fluid within the nerve sheath upon the nervi nervorum with which it has been proved to be endowed. The edema within and the stagnation without the affected nerve sheath, doubtless leads to the degeneration of the nerve fibers.

Direct massage of the effected limb removes these products of inflammation about the nerve sheath, and is second only to incision of the sheath in the relief of this condition.

The massage process must be initiated by as vigorous kneading of the whole circumference of the limb as the patient can bear, as far away from the focus of the disease as possible; that is, the proximal lymph trunks and spaces above the seat of mischief should be first unloaded. At the next sitting the manipulations should be practised nearer to the affected part, and as soon as possible to the part itself; the whole limb should be dealt with so as to induce and maintain a mere rapid circulation both of blood and lymph through the vessels, encouraging a more frequent renewal of nutrition and a more rapid absorption of the effete material.

<div>ABORTION. <i>The Weekly Medical Review.</i></div>	<div>1. An expectant course is pursued when the cervix is closed, and is dilated with difficulty, and if no signs of decomposition of the fetus are present.</div> <div>2. Under conditions favorable for the introduction of instruments or the hand, the ovum and its appendages are promptly removed.</div> <div>3. If decomposition has begun, the cervix is dilated by laminaria tents or metallic dilators, and the ovum is removed.</div> <div>4. Intra-uterine injections for antiseptics are made with warm solutions of bichloride of mercury, 1 to 2,000; in case of hemorrhage, hot solution of bichloride of mercury, 1 to 4,000, and tamponing the vagina, are used.</div>
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GENERAL SURGERY.

TREATMENT
OF BUNIONS.

BY

ROBERT T. MORRIS,
M. D.,

133 West 34th St., N. Y.

Read to the New York
County Medical Society,
November 28, 1887.

Why is it that custom-made shoes, and almost all of the shoes that are made to order, are badly shaped? I asked a fashionable shoe-maker the other day.

"I don't know why it is so, but as a matter of fact very few

persons want a properly made shoe," said he.

If no more bad lasts were made, there would be few, if any, new bunions; but as lasts are now shaped, there will be many pedal deformities, as in days gone by, and new ones will form, day by day, as steadily as time goes on.

We must accept the inevitable, for health is cheap, and deformity is costly; and the people will continue to prefer that which is costly. But the results of certain methods of treating bunions, which I have employed, have been so satisfactory that I claim the right to present briefly a hackneyed subject.

Normally, the long axis of each toe is in the same straight line with the metatarsal bone of that toe, and this line proceeding, extends under the middle of the heel, so that actually, the great toe points a little inward. I shall speak only of bunions of the great toe, because they are the common ones. Shoes of ordinary shape push the toes all toward the central axis of the foot, and then when the man walks, his toes can not expand as they should; and, being confined, the foot alone expands, and on a line drawn across the heads of the metatarsal bones. The natural result is that at the extremities of this line the joints of the great and little toes project more and more, and press harder on the shoe at these points. Next: The extensor tendon of the great toe, the adductor and the outer tendon of the flexor brevis—policis, meeting with less opposition, pull the toe farther and farther

outward at every step. The internal lateral ligament of the hallux articulation becomes gradually elongated, and the external lateral ligament contracts.

Now that the foot has been properly prepared for bunion development, the process begins. At first the epidermis over the hallux articulation is thickened for protection, and a corn forms. The corn, after a while, fails to protect sufficiently, and then the bursa beneath, — the corn, — becomes enlarged and filled with more fluid. The bursal pad protects for a certain length of time, but if common-shaped shoes are still used, the bursa becomes inflamed and the shoemaker is called into consultation. He draws a line about the deformed foot, builds a special shoe in accordance, and speaks of this as a shoe made to fit the natural shape of the foot. To give more relief, perhaps, he tacks a piece of leather on the last at the seat of the bunion, and then forms the upper over it. This makes the patient worse, because expansion at the metatarsal line goes steadily on, and the shoemaker's niche is soon filled with a bigger joint. If the mechanic were given a contract to make bunions, he would go to work on the same line that the shoemaker adopts for curing them.

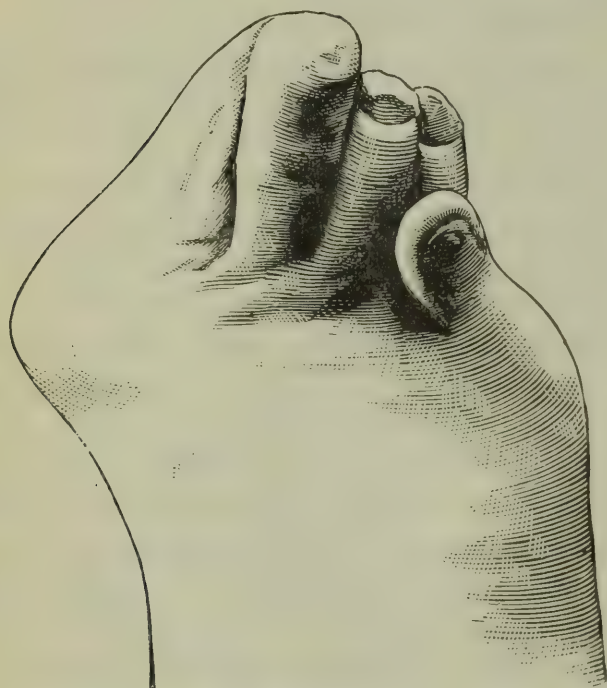
In a progressive case, successive attacks of inflammation thicken the bursa, and, perhaps, lead to ulceration. The periosteum becomes thickened, and exostosis forms near the head of the metatarsal bone. The violent attacks of inflammation which follow, cause changes in the synovial membrane of the joint, and then fibrous ankylosis and erosion of cartilage may be found.

The patient riding past the chiropodists is glad to see the sign—"Bunions removed; fifty cents each"—because his troubles are great, and he would be pleased to have relief.

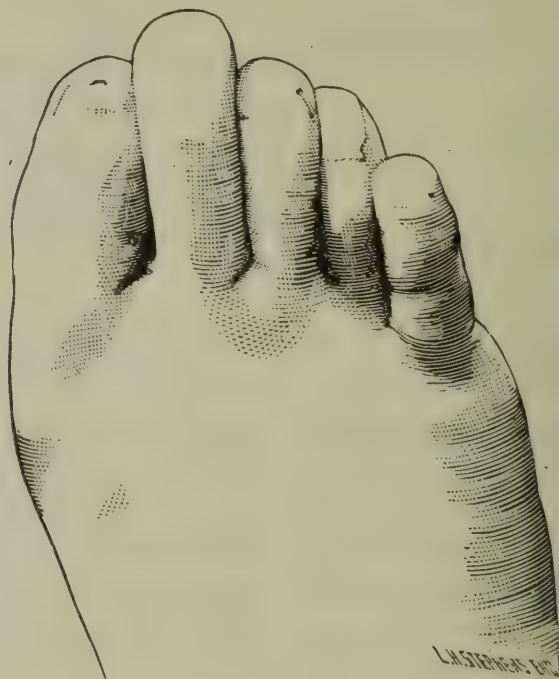
Authors have discredited the belief that exostosis at the seat of a bunion is caused by the irritation at that point, and they say that arthritis deformans causes the enlarge-

ment; but the accompanying cuts are taken from photographs of a case

The patient must wear during the day a broad-toed laced shoe, built according to



BEFORE OPERATION.



AFTER OPERATION.

which I operated on three years ago, and in which the only point of exostosis was beneath a bunion at the hallux joint of the right foot. As the bursa had disappeared through the effects of long ulceration, and as the skin was atrophied, the cut shows very well the extent of the exostosis in this case. The synovial membrane and the cartilages of the first were normal. In a number of young patients I have seen the same sort of exostosis.

In a patient not far past middle age, whose hallux bursa has not suppurated, the following line of treatment will ordinarily give good results. Inflammation, if present, is to be subdued by some common means—as elevation of the foot and the application of alternate hot and cold douches. Then, if there is a well marked corn over the seat of the bunion, it is to be removed by applying twice daily for a week a solution of salicylic acid in flexible collodion (3i—f3i), and soaking the foot in quite hot water for fifteen minutes. At the end of that time the white and loosened corn can be pulled off easily with the fingers.

the acquired shape of the patient's foot. A separate compartment is made in the shoe, by a thin leather partition or loop,* for holding the great toe in a straighter line. A thicker and less elastic partition can be used later after a partial correction of the deformity has been gained. Stockings to be worn with this compartment shoe can be made by any one accustomed to knitting, and they are to be made like a woodchopper's mitten, with a separate hole for the big toe. A very low and stiff slipper, furnished with a compartment, is to be worn at night for a few months if the case is a bad one.

Neither the shoe nor the slipper can be worn continuously at first, if the deformity is great, because the skin on the outer surface of the great toe must gradually become toughened, and the external lateral ligament

* The partition can be made by any shoemaker, who inserts the ends of the leather loop in the welt of the shoe, allowing the loop to protude into the shoe in such a way as to hold the toe at the proper point. Another way, is to fasten a loop of leather to an insole, and the insole being applied with the toe in position. The whole is then inserted in the shoe.

will not stretch rapidly without relvolting. A piece of court-plaster worn continuously at the site of the bunion will have a tendency to prevent a quick recurrence of the corn. If the external lateral ligament of the great toe joint is so much shortened that it still causes pain after the compartment shoe has been worn for three months, it is a good plan to cut the ligament, and free the parts. This should be done by open incision, because surgery in the dark—or subcutaneous surgery—will probably get the operator into trouble from hæmorrhage. An open incision made under actual antiseptic precautions, is similar to a subcutaneous wound with uninjured skin. Cocaine used according to Coorning's method, will prevent pain during the operation. After the ligament has been divided, the wound is closed completely, and a rather firm compass applied. To insure primary union, the toe is held in position by a splint of gauze-lined thin wood; and the splint must be shaped to fit the sole of the foot, and then soaked in boiling water before being applied. The splint being bandaged to the foot, the toe is then put in position and held in place by a gauge bandage passing through a slit cut at a proper point in the splint. The patient may begin to use the foot at the end of three weeks after the operation, but should be cautioned against stepping upon the foot in the interval.

The patient not suffering pain, is usually impatient at being kept at home as an invalid, and the surgeon will have to explain matters pretty fully in order to have proper care taken of the wounded member. The joint cavity being opened by the operator, there might be danger of synovitis if the antiseptic dressing should become dislodged by movements of the foot. The compartment shoe must be worn for several months after the patient first begins to walk again, even though the toe be apparently inclined to remain in a proper position.

When the walls of the bursa are much thickened, as a result of chronic inflamma-

tion, it is well to dissect out the sac. This may be done in the midst of violent inflammation, because the hæmorrhage and the removal of the bursa will give great relief immediately; and primary union seems to follow just as regularly as though the previous inflammation had not existed. The thick epidermis at the margin of the wound will gape and roll up when the dressing is removed at the end of two weeks, but down beneath, the soft parts will be found to be completely healed, as a rule.

In one case, that of an elderly patient, the bursa of both great toe joints had been inflamed and thickened for a number of years, and I found on dissecting out the bursa that the patient was a sufferer from podagra. The crystals of the salts in the surrounding soft tissues were not only plainly visible to the naked eye, but the little masses grated on the edge of the scalpel. The operation was successful in relieving the pain of the bursitis, but at last accounts the result of the gouty symptoms were still demonstrative.

In cases in which there is exostosis, or bared bone, or firm ankylosis, the head of the metatarsal bone should be excised (unless the patient be very old and infirm). This minor surgical operation can easily be done under cocaine anæsthesia, if Coorning's method of using the cocaine be employed. The foot bathing being prepared antiseptically for at least twenty-four hours before the operation, a long cut is made along the inner border of the extensor proprius pollicis tendon and the joint cavity opened. When the phalanx is disarticulated, care must be used to preserve all of the tendinous attachments in the vicinity. The soft parts then being held aside, a bent Parker's retractor, or a strip of sheet lead slipped under the head of the metatarsal bone will elevate it sufficiently so that the convex blade of a Hey's saw can be used, and the head of the bone removed. The wound need not be provided with a drainage apparatus, and the splint already referred to

can be depended upon for holding the toe in a straight position until the healing process is completed. The foot and leg should be elevated, and the knee kept in a semi-flexed position for forty-eight hours after the operation. The patient should, of course, remain in bed during this length of time, but afterward he can sit in a chair during the day, with the foot or feet resting on the seat of another chair. At the expiration of two weeks the dressing should be removed, and the toe placed in order to prevent firm union at the joint.

In some cases the new joint will be as good as the natural one. In other cases there will be a fibrous union which is not much inferior, and in cases in which ankylosis had existed before the operation, firm ankylosis is apt to occur again, unless by early passive movements we can prevent it. The patient should not attempt to walk until three weeks after the operation. In elderly persons there is sometimes a troublesome swelling of the foot during the early attempts at walking, but alternate hot and cold douching at the same sitting, massage and gentle bandaging will, slowly but surely, remove the complication. It is imperative that the operation and dressing be done in such a way as to avoid suppuration, because a hard cicatrix in the region involved would be very undesirable.

suggested massage, or palpation, for the purpose of forcing out the contents of the common bile duct. Systematic pressure and relaxation was made for half an hour, when something seemed to give way with a gurgling sound. The patient, in a few hours, having slept in the meantime, passed a large mass of small gall stones, some of them half as large as a garden pea. For several days these continued to appear in the dejections.

A few weeks after recovery seemed well established, the patient had a relapse, suffering great pain. Palpation was again done with the effect to put a stop to the pain; more gall stones passed. It is now two years since, and the patient has had no further trouble.

THE LIFE OF
EPHRIAM
MCDOWELL.
BY
MARY YOUNG
RIDENBAUGH.

Mrs. Mary Young Riddenbaugh, the grand-daughter of the famous Dr. Ephriam McDowell, is the author of a "Biography" of that surgeon,

the work to appear shortly. In it she proposes to give a history of Ephriam McDowell, with a sketch of his antecedents, a review of the times in which he lived, and a scientific treatise on ovariectomy, prepared by a well known operator in that line of surgery.

The life of Dr. McDowell is interesting to the American profession, not only through his original work in surgery, but also on account of the eccentricities which he possessed, and which have given rise to a sufficient number of anecdotes in connection with him to fill a large volume. The work is illustrated with a fine steel engraving of McDowell, and photographs of his tomb and monument. Eminent surgeons have contributed their share of knowledge concerning him, and altogether, the book promises to be both interesting and instructive.

PUMPING
THE LIVER.

Professor Comin-gore, of Indianapolis, reported to the Mitchell District Medical

Society, the case of a physician about forty-five years of age, who had been on a long ride in a cold North wind, a part of the time in sleet. He had a chill followed by a agonizing biliary colic. Two neighboring physicians were called in, and, after exhausting every means they could suggest for the patients relief, with no sign of improvement, they called Dr. Comingore, who, after hearing what had been done,

EYE, EAR, AND THROAT.

SUPPURATIVE
OTITIS
MEDIA.BY SETH S. BISHOP,
M. D., OF CHICAGO.Read in the Section on Op-
thalmology, Otology, and
Laryngology, of the
American Medical
Association,
June, 1887.

The object of this paper is two-fold: *First*, to elicit a discussion of the subject which shall set forth the latest and best methods of treatment; *Second*, to protest against a mode of treatment that has been

highly lauded of late. I refer to what is called the dry treatment, in which the external meatus is filled and even packed, with powder that is to remain from one visit to another. Although the principle involved did not recommend the practice as being in accord with good surgical doctrine, the favorable results reported induced me to try it, as I have a habit of trying all new methods which promise any improvement on the old.

The plan proposed was to remove all the puss from the drum-head and meatus with dry absorbent cotton, inflate the middle ear, again remove what discharge was forced through the perforation of the membrana tympani by the inflation, and then blow powder into the middle ear, and fill the external meatus with the same. It was even urged that the powder should be put in, a little at a time and each layer packed, one upon the other, until the meatus was full. It was claimed that in this way the discharge was speedily stopped; and it was—that is, the exit was stopped as is a bottle with a stopper, so that the contents could not escape. But suppose you want the contents of the bottle to escape, as you probably do, how is this to happen unless you tap it at the bottom, as one does in the nasal douche? This is just the condition presented by an ear tamponed in this so called dry method. The discharge can hardly escape through the solid packing of powder which the absorption of moisture converts into a

dense plug. The purulent discharge does not dissolve it even if a soluble powder is employed, and when iodoform or bismuth is used solution is clearly out of the question. What results? The formation of pus does not often cease at once. It fills the middle ear and finds exit through the Eustachian tube, if the tumefaction is not too great. When the tube is not patulous the damming up of the sewerage of the tympanum will naturally force the pus through the mastoid antrum into the cells, after the middle ear has filled. A very serious aggravation of all the symptoms is likely to follow.

That this method is contrary to every important principle of surgery must be patent to all. An abscess should not only be opened, but should be kept open until the pyogenic process ceases. It is a fallacious doctrine that air can or should be excluded from the middle ear in this manner. Air will gain access to this cavity through the Eustachian tube and furnish pathogenic germs. Free drainage should be maintained through the canal built by nature, in order to avoid a complication of the existing trouble with mastoid disease. Moreover, it is problematical whether one ever thoroughly cleanses the middle ear of pus by this dry method, even if the perforation be an unusually large one. The cotton is not likely to enter the tympanic cavity and it is not desirable to have it for there would be danger of entangling the ossicles in its meshes and dislocating or removing them.

The most rational and successful treatment I have tried is the following: Cleansing the external meatus and middle ear thoroughly with injections of a 1-10,000 solution of mercuric bichloride; inflation by the Politzer method, or catheterization; iodine vapor if stimulation is required; draining the part with absorbent cotton and dusting them with finely pulverized boracic acid containing $\frac{1}{2}$ of 1 per cent. of mercuric bichloride, or if this should cause any unpleasant sensation, iodoform or boracic acid may be substituted.

Hydrogen peroxide is valuable for cleansing the ear when there is a large amount of debris present in the form of pus mixed with epithelial scales, or cheesy concretions. In addition to its excellent mechanical effect due to effervescence, the oxygen liberated destroys bacteria. The latter result is also effected by the sublimate solution which in one-half the strength mentioned will destroy bacteria in ten minutes. The inflation ought to expel the fluid contents of the middle ear. In cases of brief duration iodine is not required, but in very old cases, when the vital forces seem to have lost their powers of recuperation and resistance to pathogenic germs, tissue changes—the process of absorption and nutrition—may be favorably influenced by the judicious use of iodine vapor. Drying the parts before dusting them with powder leaves the patient more comfortable than the chilling effect of evaporation does. The powder when slightly wet becomes hard and produces a feeling of stiffness, and sometimes of soreness. Then if the powder be left dry we are enabled to determine at once when the discharge ceases.

It is not necessary to fill the ear with powder. If enough be insufflated to barely cover the suppurating membrane, all is accomplished that can be expected from the remedy, and the functions of the ear are not materially interfered with—an important consideration with many patients. This treatment leaves no obstruction to free drainage, and in no manner invites mastoid trouble. When the disease has just passed from the acute to the chronic stage the boric acid powder had better be used without the bichloride, for the latter may cause some disagreeable crackling sensations and even pain. But in the strength mentioned it is not likely to do so unless there is considerable inflammation.

At the meeting of the Illinois State Medical Society, held in this city three weeks ago, the efficacy of iodoform as an antiseptic was called in question. While the experi-

ments of Heyn and Rovsing, of Copenhagen, show that iodoform is inert in the presence of bacteria while the remedy remains in a dry state, de Ruyter has proved that iodoform in the presence of the fluids of suppurating surfaces undergoes chemical decomposition during which new iodine compounds are formed. The splitting up of the iodoform, its partial solution and absorption, resulted in the destruction of the ptomaines, the product of pathogenic microorganisms, and hence the arrest of pathological metamorphosis. The laboratory thus confirms the practical conclusions which years of experience have forced upon the profession. In conclusion, let me add in support of the method here outlined, that no routine treatment has ever yielded the uniformly satisfactory results in my hands that this has. Were there time to enter into more minute details it would be interesting to consider the variations of treatment required by necrosis, etc., but that would extend beyond the scope of this paper. Numerous illustrative cases might be adduced from my records, but I will mention but one that I have now under observation, in which the hearing was all from chronic non-suppurative inflammation of the left middle ear, and the voice could be heard only by shouting in the right ear, in which chronic suppurative inflammation had existed for over forty-nine years. I removed from both nostrils large polypi, which had prevented nasal respiration for twelve years. The treatment I have described stopped the discharge in four days, and subsequent catheterization, etc., restored some hearing in the left ear, and so improved the right as to render conversation audible at a distance of fifteen inches.

The best informed practitioners sometimes overlook a supra-tympanic abscess and blow boric acid into the external meatus, or practice catheterization in the vain hope of expelling the matter.

ARTIFICIAL
RIPENING OF
CATARACT.

BY BOERNE BETTMAN,
M. D.

Read to the Chicago Society of Ophthalmology and Otology,

This is a subject which has not received the recognition from fellow colleagues that its importance deserves. Only a few articles and comments scattered here and there can be found relating to the relief of

persons having non-mature cataracts. The third number, Vol. xl, of *Knapp's Archives*, contains a communication from the able pen of Prof. Forster, of Breslau, entitled "On the Maturity of Cataract." Forster calls attention to the annoyances patients are subjected to who are afflicted with cataracts of slow development. In many persons the process of degeneration extends over a period of months and years, leaving them in a helpless condition, and in many instances obliging them to forego the enjoyments of life and resign life-supporting and profitable positions.

So long as the cataract is not mature, an operation is contra-indicated. So long as the cortical substance is still firmly adherent to the capsule, extraction of the lens can not be performed with perfect safety to the patient, for, as Forster correctly states, the remaining layers of cortical substance will imbibe aqueous humor, swell, and give rise to iritis and other dangerous complications. In order to produce more rapid degenerations of the lens substance, he proposes trituration of the cortex. The procedure consists of gently rubbing the cornea with the blunt end of an instrument, usually a trabismus hook or iridectomy forceps. The pressure exerted upon the cornea is transmitted to the lens, loosening and splitting the still adherent and semi-opaque cortical lens fibres. These, in the course of days and weeks, become perfectly opaque. The object of the operation has been accomplished; the cataract is mature. I was very much impressed by Prof. Forster's article, and re-

solved to try his method whenever occasion permitted. I have used the expedient quite often, but have modified it to suit my individual tastes. Instead of rubbing the cornea, I bring the pressure to bear directly upon the lens, by pressing against the capsule with a spatula, usually employed to replace prolapsed iris. I prefer this method to the one recommended by Forster for the following reason: Trituration of the lens always follows an iridectomy. After the escape of aqueous humor iris and lens move up against the cornea; the iris contracts and the pupillary field becomes small. When the blunt instrument now is rubbed against the cornea the pressure, unless limited to the small pupillary area, will not only break down the lens fibres, but will subject cornea and the delicate iris tissue to an unnecessary irritation. I therefore, as before mentioned, carefully pass the spatula into the anterior chamber, and if necessary behind the iris, and gently stroke and press the lens in any direction.

Great care must be observed not to exert too much pressure, otherwise a dislocation of the lens might ensue. The flat side of the instrument should always be held against the lens surface. If tilted so as to bring the edge to bear upon the capsule, it no doubt would rupture the latter. It is unnecessary to add that the strictest antiseptic precautions are religiously adhered to, and that the eye should be fixed in case the patient shows an unruly disposition. This, however, is rarely necessary, owing to the anæsthetic effects of cocaine. The distribution of opaque lens fibres and general breaking up of the cortex can readily be seen with the naked eye during the operation. The mother of pearl sectors split, break into pieces, and are forced from their former positions. In the course of a few days, yea, even after twelve hours, the entire appearance of the lens has changed. Its interior surface has now a uniform mottled appearance. When illuminated it frequently resembles a bag entirely filled with a granular

mass. In successful cases it becomes entirely opaque, cutting off the yellowish reflex from the nucleus.

This delicate manipulation has rendered me great service, and has rescued many of my patients from a condition which, to say the least, was unpleasant.

The results of trituration of the lens are usually very marked, and in some cases may be termed instantaneous. vision equal to $\frac{3}{200}$ to $\frac{4}{200}$, *i. e.*, counting fingers at from three to four feet, can be reduced to qualitative perception of light in twelve hours. In the majority of cases, in fact in every instance where the trituration has been thoroughly accomplished, the lens can be extracted in from three to six weeks after the preliminary operation. During the removal of the opaque lens, the cortical matter escapes as a semi-fluid, flocculent mass. The pupillary is easily cleared of cortical remnants, and the danger attributed to the lodgement of transparent particles of lens substance in the wound or on the iris, is entirely overcome.

A few examples may suffice as illustrations:

Case 1.—January, 1883. Mrs. S., æt. 60. Left eye, nuclear cataract. Mother-of-pearl sectors in the cortex. Amber-colored nucleus. Slight reddish reflex from fundus. Counts fingers at five feet. Right eye, incipient cataract; fingers at ten feet.

June, 1883. Condition not materially changed. Sight in left eye has decreased; fingers at eight feet. Left eye vision perhaps a trifle less than in January. The patient being very anxious for an operation, I proposed preliminary iridectomy and trituration of cortex. She readily consented. Operated June 5. June 25 l. lens, to all appearances, perfectly mature. July 15, extracted the lens. Recovery rapid and uncomplicated. V. = $\frac{20}{30}$.

Case 2.—Sept., 1886. Mr. H., a contractor, æt. 62. Immature cataract, both eyes. Unable to walk about, since two years, without attendant. Vision, both eyes;

counts fingers at four feet. Nuclear cataract. Reflex from fundus dull red.

Oct. 1886. Iridectomy and trituration of cortex, right eye. Six days later cannot count fingers, only able to discern movements of hand. I extracted the lens three weeks after the first operation. The lens and cortex were easily removed. On the fourth day I found my patient out of bed playing cards. He left the hospital two days later with vision equal to $\frac{20}{20}$.

Case 3.—Under observation three years. Immature nuclear cataract, both eyes. After much persuasion he yielded to my frequent demands and permitted me to mature the right lens. Vision before operation, counts fingers at a distance of three feet. Twelve hours later nucleus no longer visible, covered by a layer of white opaque cortex. No iris shadow. Removal of lens and subsequent recovery, with good vision, after a lapse of three weeks.

The conclusions arrived at in this paper are as follows: The operation is a feasible one. It is easily executed. There is no danger accompanying it. Its results are always marked and rapid. The subsequent removal of the lens is made more facile, and danger from secondary complications after extractions are greatly lessened.

MERCURIC-

CHLORIDE IN

CONJUNCTIVITIS.

In a case of extraction of cataract after a preliminary iridectomy, in a man 82 years old, a violent muco-purulent conjunctivitis set in on the fifth day. The use of a solution of bi-chloride of mercury, one grain to the pint of water, with eight grains of muriate of ammonia, and one grain of sulphate of atropine, every hour brought on a rapid diminution of the discharge, and final recovery, notwithstanding the corneal wound remained open. The cornea, which was at first of a milk tint, cleared up, and the wound united by the slow process of granulation.

OBSTETRICS AND GYNÆCOLOGY.

OBSTETRIC

MEMORANDA.

BY

JOHN B. ENRIGHT.

Read to the Louisville
Medical Society, December
1, 1887.

Monday, Nov. 21,
9 a. m. called to see
Mrs. M. On my ar-
rival I found her suf-
fering intensely and
she informed me, as
she expressed it, that

she was seven months gone and feared a miscarriage. Acting on this statement I at once gave her $\frac{1}{4}$ gr. morphine hypodermically and then proceeded to examine her. I found her lower limbs edematous and abdomen extremely large. Digital touch showed the os to be considerably dilated. Auscultation gave the foetal heart sound very distinctly just to the left and above the umbilicus; but, stupid like, I did not search for a second heart sound, at least not then. At a second vaginal examination both feet were distinctly felt through the membranes. A moment later the sack ruptured and the water madly rushed away. Labor progressed slowly and the position proved to be a left sacro-anterior; at 11:30, body of child was born. A moment later I rapidly delivered the head as the movements of the abdomen indicated attempted respiratory efforts. Abdomen still remained large. Aur al examination now located another foetal heart below and to the right of the umbilicus. I promptly informed the lady she would be blessed with *twins*. She did not appreciate this news and it likely had the effect of swelling the pains for a time. At 12 m. strong pains again set in. As descent took place the position proved to be a right occipito anterior. A moment later membranes ruptured and internal rotation quickly followed; but then everything stopped. The uterus seemed to be in a state of complete inertia. At this time I gave her a teaspoonful of Fl'd Ext. Ergot; but this did not seem to bring on expulsive efforts. I believed I erred in giving the ergot at this time from what followed. This state of

things went on until 1:30 p. m., when I applied forceps and delivered. The child did not take to breathing kindly and seemed to be extremely drowsy. I am inclined to think morphia given the mother caused this condition. After an interval of some fifteen minutes I resorted to Crede's method of expression, and that without avail. At this stage a little homorrhage occurred; but not to amount to anything. I temporized hoping for pains to assist in separating and expelling what I then thought to be adherent placentas. The pains were not forthcoming and thus things remained for a time. Later on a vaginal exploration showed the cervix to be in a flaccid condition. By depressing the uterus with my other hand I was able to reach the internal os and found it strongly contracted around both cords. At this instant my collegiate training came to my rescue and told me I had a case of the so-called hour-glass contraction to deal with. I am inclined to give the ergot the credit of having aided at least in bringing about this state of things. For the uterus being extremely large, the children weighing collectively 13 lbs., and each amniotic sack contained a considerable quantity of fluid, the walls of body and fundus must necessarily have been considerably attenuated, due to pressure, while a due amount of muscular fibres were contracted at internal os. These did not contract too much but they contracted too early or rather those in body and fundus were too tardy in closing down on the inclosed contents while the door was still open. The door being shut the secundines were imprisoned. It is a well known physiological fact that ergot is a stimulant of nonstriated muscular tissue, no matter where found, as this is the only kind found in walls of uterus, it follows that ergot does cause contraction of this viscus. And where there is most muscular tissues there you will have the greatest contractions. At 3:30 p. m. I commenced to dilute the constriction. After a time I got two fingers into the cavity and succeeded

in getting one of the placentas away. I then at once introduced my whole hand into cavity and took other placenta away and swept out all clots and shreds. The clots were what I am pleased to term, dry clots. All the serum seemed to be pressed out of them. I presume the contraction caused the fluid to be exuded into the adjacent tissues. In passing I may state both the placentas had the cords attached near their margins, the so-called battle-door attachment.

After seeing that the uterus remained contracted, I syringed out vagina with warm water that had been previously boiled. After treatment; teaspoonful of ergot, morning, noon and night for five days. Five grains of quinia every four hours during the day for the first three days, after that five grains *terdie* for a week. Syringed out genitals three times a day during the first week with warm water that had been previously boiled. On the evenings of the second and fourth days temperature rose to 101.6°, the highest she had. At all other times temperature was nearly at or below one hundred. I report this case for the following reasons: 1st, I believe I acted hastily in giving the morphia, and the drowsiness of second child was due to it. 2d. I believe I erred in giving the ergot when I did. 3d. That ergot should never be given before birth of a child and expulsion of secundines unless there is a previous history of hemorrhage. 4th. That the practice of giving ergot, as indicated above, after the uterus is emptied, is sound practice. It is not administered to stop or prevent hemorrhage; but from its well-known physiological action is given to bring about complete involution. 5th. That intra-uterine injections were absolutely contra-indicated as *all* the secundines had been removed. 6th. That quinine is prophylactic against septic intoxication and should always be given. 7th. That vaginal injections do no specific good; but as a measure of cleanliness and comfort are to be recommended.

VERATRUM VIRIDE IN PUERPERAL CONVULSIONS.

BY J. D. RUSHMORE,
M. D.,

BROOKLYN, N. Y.

Read to the Kings
County Medical
Association,

June 7,
1887.

Gaillard's Med. Journal.

Both the favorable and the unfavorable estimates put upon veratrum viride are fairly shown by the following extracts from Fordyce Barker on "The Puerperal Diseases" and from "The National Dispensatory." Barker says: "we have, however, two agents in our materia medica

which act specifically as vascular sedatives. These are aconite and veratrum viride. Simply as a vascular sedative, I greatly prefer the veratrum viride, and I think this is the fact with all who have any considerable experience in the use of both, but I must tell you that this class probably constitute but a small minority in the profession. I meet with many who have a great fear of the veratrum viride, because it sometimes produces the appearance of dangerous collapse. But this is a very temporary condition, which, so far as I have heard, has never terminated disastrously. The appearance of one who has taken too much veratrum viride is almost precisely like that produced by tobacco in those unaccustomed to its use; I have often seen this, but now, when I do, it causes no alarm, as I am sure that the effects will soon pass off. There is no objection to assisting reaction in such cases, by carbonate of ammonia or small quantities of some alcoholic stimulant. In a small percentage of cases it is quite liable to cause nausea, but this is readily counteracted by giving it in combination with the tincture of ginger. As to its positive effects, I will say that you can, by it, absolutely and certainly control the frequency of the pulse of inflammation and irritation. Stille says in "The National Dispensatory" in speaking of the medicinal uses of veratrum viride "the greater number of reports which have been published concerning the medicinal uses of

green veratrum are, unfortunately, not only deficient in the details on which a judgment could securely rest, but exhibit great ignorance of the natural history of disease, and of the relations of medicines to its cure. The only conclusions to be drawn from a critical study of the mass of conflicting evidence respecting its use in the diseases referred to ("sthenic and asthenic diseases, inflammation and fevers") is that the patients would have been better off not only without its use, but also without that of the medicines associated with it. Green veratrum reduces the patient to a state of such wretchedness that he is unable to take food, or to digest it if he ate it, or even to find energy enough to cling to that last refuge of sufferers—hope.

In regard to the danger incident to the administration of veratrum viride it may be stated that Stille, in his "Therapeutics and Materia Medica," reports one death of a child eighteen months old, suffering from catarrh, after taking a single dose of thirty-five drops of the tincture, and another case when death took place after sixteen drops of Norwood's tincture in three-hour intervals in a patient "suffering from hepatic distress accompanied by occasional vomiting of bilious matter."

The following cases of poisoning by veratrum viride, with two deaths, are reported in this connection from records in the Surgeon General's office at Washington.

Female with bronchitis, general condition good, took undiluted, on empty stomach, Norwood's tinct. veratrum viride. Severe characteristic poison symptom developed in twenty minutes. Nausea, but no vomiting. Free emesis by mustard. Dorsal-decubitus. Brandy, friction, gr. $\frac{1}{4}$ morph. sulph. Slight improvement in pulse, but patient suddenly exclaimed "I cannot breathe," and died. R. W. Walmsley in *N. O. Med. and Surg. Journal*, 1884-5.

H. C—— took a drachm (probably.) Speechless and powerless for several hours. No treatment mentioned. Recovery. J.

B. Buckingham.—*Amer. Journ. of Med. Sciences*. October, 1865.

Lawyer took same dose as above. In half hour speechless; incessant vomiting and retching. Pulse hardly perceptible at wrist. Administered tinct. opii, vomiting ceased, pulse increased, and recovery prompt. J. B. Buckingham. Ibid.

Negro girl, aet. 16, took Norwood's tinct. One hour after, nausea; no vomiting, pulse 40, very feeble. Emetic acted. Mustard externally, whisky internally. No benefit. Pulse down to 30. Electricity employed with some immediate effect on pulse, but could not withdraw electricity until end of four hours.—E. Mason. *Trans. Med. Ass'n. Alabama*, 1887.

Male, aet. 30, took several doses (quantity not given) between 3 and 10 P. M. At 11.30 free emesis. Pulse about imperceptible—16 per minute; $\frac{1}{2}$ gr. sulph. morph.; whisky with gr. x. quin.; sulph. by rectum. Rapid recovery.—J. S. Bailey. *N. O. Med. and Surg. Journal*. 1877.

In cases of R. M. Kirk, one fatal in *Med. and Surg. Reg. Philadelphia*, 1879, and one case reported by L. N. Hornitz, in *Phila. Med. Journal*, 1883-4, are noted in above list of poison cases; but the details could not be found in the library of Academy of Medicine of New York, by Dr. J. K. Culkin, House Surgeon of the Brooklyn Eye and Ear Hospital, who kindly furnished for my use the above report of cases of poisoning by veratrum viride.

In order to learn to what extent veratrum viride was used by the profession of Brooklyn, personal inquiry at several of the old and large drug stores furnished such answers to the question "How much do you dispense of veratrum viride?" the reply was, "Seldom." "Very little" "So seldom that I cannot remember the last time," etc.

The following cases of puerperal eclampsia, treated by veratrum viride, followed by a brief statement in regard to its use in general diseases, is submitted for your consideration and discussion. These cases, both

puerperal and others, are taken from about 140 replies to the 636 circulars that were sent to the regular physicians in the country:

Dr. W. G. Russell—two cases; both post partum; recovery; drug administered hypodermically, in from five to fifteen minims every fifteen or twenty minutes; pulse-beats diminished, and convulsions controlled; no measures necessary to control nausea.

Dr. W. F. Swalm—one case died; primipara; seventh month of pregnancy, lower limbs and hands very œdematous; two convulsions before, and twelve or fifteen after delivery; drachm doses hourly for three hours by the mouth; pulse reduced in frequency; convulsions continued; stomach unable to retain anything after third dose; no measures used to prevent nausea or vomiting.

Dr. T. M. Loyd—one case: ante partum; one dose of ten or twelve minims Squibb's fluid extract hypodermically; reduced pulse to the forties in half an hour; chloroform used until delivered; two severe convulsions with tendency to return each time; chloroform was withdrawn when veratrum was administered.

Dr. G. W. Cushing—two cases; post partum; one recovery, one death; dose five to thirty drops; fluid extract (Squibb's), from fifteen minutes' to four-hour intervals by mouth and hypodermically; pulse promptly reduced and convulsions relieved; nothing necessary to relieve nausea; has been no serious symptoms result from its use; it is quickly eliminated.

Dr. H. Enton—two cases; both ante partum; recovery in each; dose twenty, fifteen; and ten minims every fifteen minutes to two hours, by mouth, rectum, or hypodermically; pulse became soft and slow; convulsions less frequent and severe; patients vomited to some extent; one primipara, one multipara; urine loaded with albumen in each.

Dr. W. H. Randolph—one ante partum case; recovery; remedy given hypodermically; pulse below fifty; convulsions ceased; no treatment necessary for nausea.

Dr. J. E. Schroeder—two ante partum; both recovered; dose fifteen, ten and fifteen minims tincture half-hourly by mouth; pulse decreased; convulsions at wider intervals; no measures necessary to relieve nausea; chloroform used in one case, chloral and potassium bromide in the other. Delivery in an hour after last dose of veratrum, and convulsions ceased.

Dr. J. J. Terhune—four cases; two ante partum, two post partum, three recoveries; one death; twenty to forty minim doses every twenty minutes and upward—hypodermically; tincture always reduced pulse, and no convulsions occurred; pulse is below 90; no anti-emetics.

Dr. J. Corbin—one ante partum, one post partum; each recovered; five to ten minims fluid extract every half to one hour hypodermically; pulse reduced and convulsions stopped; no anti-emetics.

Dr. J. Fred Moore—one ante partum case; recovery; forty drops by the mouth every half hour until vomiting; pulse not recorded; subsiding of convulsions; no anti-emetic used; other agents had been employed before using veratrum; would use it again in inception of trouble to relieve cerebral engorgement.

Dr. Benj. Edson—two ante partum cases; one recovered; five minim doses by mouth; pulse lowered and convulsions ceased; one case died; fifteen minims hypodermically; little effect on pulse or convulsions; chloroform also used in this case; intervals of administration irregular in each case.

Dr. Geo. A. Ostrander—one ante partum case; died; drug given frequently by the mouth; pulse slowed; convulsions continued; no vomiting; case seen many years ago; has always been afraid of veratrum viride; prefers to use other remedies.

Dr. E. A. Lewis—two post partum cases; both recovered; dose twenty to thirty minims fluid extract hypodermically at irregular intervals; pulse came down; convulsions ceased; no anti-emetics; one case apparently beyond hope but recovered.

Dr. Wm. Browning—one ante partum.

case; seen with another physician; drug used a day or two after phlebotomy; recovery.

Dr. J. E. Richardson—four cases; three ante partum; one post partum; one post partum, two ante partum cases recovered; other died; dose four or five minims of tincture every two or three hours; in two cases hypodermically, in two by mouth and rectum; pulse reduced in force and frequency, and convulsions less severe and frequent; chloroform used; no trouble from nausea.

Dr. C. Fulda—two post partum cases; both died; one to three drops Norwood's tincture every half hour by mouth; pulse lowered; convulsions continued; no anti-emetics.

Dr. Henry N. Read—one ante partum case; death; five minims (U. S. P.) half hourly by mouth; pulse lowered slightly; no effect on convulsions; no anti-emetics necessary; case fatal twenty hours after attack began; chloroform, morphia, bleeding had no effect.

Dr. T. P. Corbally—two ante partum cases; one recovery, one death; dose ten minims, five minims, after ten hours hypodermically; case of recovery albumen coma; case of death had extensive pulmonary oedema, and probably cerebral effusion.

Dr. H. E. Durner—one post partum case; death; drug given by mouth; diminished rapidity of pulse, and convulsions slight; no anti-emetics.

Dr. Wm. Madden—two cases; one ante partum, one post partum; former recovered, latter died; dose five minims Norwood's tincture every fifteen minutes hypodermically; in ante partum case pulse fell to forty; convulsions ceased after eighty minims had been used; no anti-emetics; the post partum case complicated with epilepsy; chloroform used in each case.

Dr. J. D. Sullivan—two ante partum cases; one recovery, one death; drug given hypodermically in five to ten minim doses, p. r. m., in half to two-hour intervals; pulse was reduced in frequency, and controlled convulsions for a time; suspension of drug relieved nausea. In first case, after doing well for

ten days, convulsions recurred, and death took place in a few hours. In second case pulse fell to sixty, and induced vomiting and copious respiration.

Dr. Geo. R. Westbrook—two cases; one ante partum, one post partum; the former recovered, the latter died; dose ten minims tincture hourly hypodermically; pulse reduced to sixty in case that died; convulsions not controlled. In second case pulse sixty-four; convulsions ceased after second dose; no vomiting in either case. In the case that recovered only two ounces of urine were excreted in twelve hours; about sixty per cent. albumen, which disappeared after five days; loss of vision for ten days; death by asphyxia in a convulsion in post partum case.

Dr. Geo. H. Parshall—two ante partum cases; both recovered from convulsions but died later; the first of pleurisy, after two weeks; the second pulmonary congestion after three days; dose twenty to thirty drops Norwood's tincture; half-hour intervals by mouth; pulse reduced; convulsions ceased; no anti-emetics. In second case two doses given; pulse fell from 140 to 72; free perspiration; pulmonary oedema relieved; consciousness restored; weakness developed; pulse grew rapid, respiration rapid; lungs congested; death.

Dr. John H. Trent—two cases; post partum; recovery; half teaspoonful of Squibb's fluid extract every two hours until relieved, given by mouth; convulsions soon ceased; pulse not noted; no anti-emetics.

Dr. E. W. Owen—Several cases; recovery; dose two to four drops every hour or two by mouth; pulse slowed and temperature reduced; combined with aromatic spirits of ammonia to prevent nausea.

Dr. John Van Ness—during thirty-five years' probably fifty cases; eight to ten per cent. of recoveries; dose two to four drops by mouth, often enough to keep pulse down to sixty; pulse and convulsions very satisfactorily effected; champagne and kumiss to relieve nausea.

Dr. F. W. Rockwell—has used it (vera-

trum viride) in a few cases, in the form of tincture and as recommended by Dr. Fearn, with excellent results; should use it again freely if other cases presented.

Dr. A. A. Shepherd—used it in half-drachm doses by mouth, or drachm doses by rectum until convulsions ceased; experience so satisfactory that he was almost led to look upon veratrum viride as a sure antidote to the uræmic poison inducing puerperal convulsions; never felt that the tonic effect of the drug ever increased tendency to death.

Dr. Frank Baldwin—saw it used in post partum case (case of Dr. Corbin) with excellent results.

Dr. Benjamin Ayres—has not used it, venesection seldom disappointing him in suitable cases.

Dr. J. F. Golding prefers to use chloral hydrate in puerperal eclampsia.

Dr. J. H. Barber—in post partum case; recovery; ʒss dose by mouth every hour until half an ounce had been taken; convulsions ceased; pulse reduced; no anti emetics.

Dr. Charles Jewett—twenty cases; sixteen ante partum; two post partum; one ante partum and post partum; one not noted. Three deaths; in ante partum cases; in convulsive stage the other deaths were due in post partum cases to pulmonary oedema; one case; several days after last convulsions ceased; none died of eclampsia in whom veratrum was used early (before eight or ten convulsions). Dose, ten to twenty minims, p. r. m. to hold pulse below sixty, given hypodermically; prompt reduction of pulse nearly to or below sixty; no convulsions while pulse was below sixty; no attempt to prevent or arrest nausea or vomiting. In one or two cases in which twenty or thirty convulsions had occurred and the patient was moribund, veratrum failed to control the pulse.

Dr. W. H. Thayer—one ante partum case; recovery; dose nearly one drachm; after a convulsion twenty-five drops Squibb's fluid extract, which was almost immediately vomited; given by mouth; pulse reduced from

120 to sixty in two and a half hours, and rose to eighty-four in four hours; convulsions at intervals of half an hour or more for five hours; two within an hour after administration of drug; none after that.

Dr. H. C. Rogers—three ante partum cases; recovery in each; dose eight to ten minims, hypodermically, from one-half to ten hours; pulse reduced in strength and frequency; convulsions arrested; calomel in small doses to relieve nausea.

Dr. F. W. Wunderlich—one post partum case; death; dose six drops every two hours until three doses were given; then the medicine, when intermitted; feeble and irregular pulse necessitated the discontinuance; convulsions not affected.

Dr. George H. Kuhn—five ante partum cases; three recoveries; two deaths; in three, convulsions were arrested; dose first every fifteen minutes; then thirty minims, hypodermically; in all cases pulse reduced; in fatal case chloroform was also given.

Dr. J. D. Rushmore—two post partum cases; recovery in each. First case had only two convulsions following the eating of four boiled eggs. Pulse reduced to thirty-six by single dose (quantity not known) of Squibb's fluid extract, hypodermically; distressing retching relieved by brandy; kidneys not affected; probably any other emetic would have given relief with less discomfort. Second case, primipara; severe headache few hours after delivery, followed by four or five severe convulsions and total loss of sight for twelve hours; some oedema of limbs and albuminuria; fluid extract v. v. given by mouth at first, and afterwards hypodermically; kept pulse between fifty-five and sixty-five; no convulsions afterwards. Pulse sixty twelve hours after discontinuance of drug; nausea not excessive.

Dr. J. Watt—six cases; two ante partum; all recovered; dose ten to thirty grains, hypodermically and by mouth. When given hypodermically, only one convulsion followed; pulse kept below fifty five; no anti-emetics.

Dr. J. C. Hutchinson—verbal communication; one case apparently hopeless; fluid extract given; patient recovered.

Dr. S. Sherwall—verbal communication; one case; ante partum case; recovery; six minims, hypodermically; one dose; recovery; blood letting also employed.

The above forty-one reports furnish eighty-five cases of puerperal eclampsia that can be tabulated. Seven of these reports are general and cannot therefore be given in detail. Of the above cases fifty-six were ante partum and twenty post partum. Of the whole number of cases sixty-five recovered and twenty died, a mortality of not quite thirty-one per cent. Of the ante partum cases forty-three recovered and thirteen died, a mortality of thirty and one quarter of the post partum cases twenty-two recovered and seven died, a mortality of a little less than thirty-two per cent. An examination of the reports of fatal cases shows that in one case epilepsy was present; in another there was extensive pulmonary œdema and probable cerebral effusion; in another death took place in spite of use of venesection, chloroform, morphia and veratrum. In still another case pulse and convulsions were not affected by the drug, and chloroform was also employed.

In one case the pulse was reduced to sixty, but the convulsion continued. The remaining cases where death took place seem to have been ordinary cases of puerperal eclampsia.

In the cases of recovery and death as well, the drug seems to have been given, with one or two exceptions, in moderate rather than heroic doses—five to twenty or thirty minims of tincture or Norwood's tincture or fluid extract, preferably, hypodermically or by the mouth, in intervals varying from twenty minutes to several hours. The testimony, with few exceptions, shows that the remedy will reduce the pulse in frequency, and sometimes in force, and the effect can be maintained by careful administration of the drug. It is also a notable fact that the nausea and vomiting were not sufficiently urgent to re-

quire relief, although the medicine was given in moderately large doses, both by mouth and hypodermically. The fatal results could never be attributed to the remedy. The results of eclampsia have, until recent years, shown a mortality of about one death to three or four cases. In 1855 Barker found the mortality to be thirty-two per cent. in cases occurring before and during labor, and twenty-two per cent. in those after labor. While since that date the mortality has fallen to fourteen per cent. Dr. Philip Grey (Hospital Report, 1870) reaches the same conclusion, and shows that the substitution of chloroform for indiscriminate bleeding is to be credited with the diminished mortality. In view of these facts not much can be claimed for veratrum viride as regards final results in cases reported in this paper.

Further and much more extended experience is needed before a reliable and discriminating judgment can be found in regard to the efficacy of veratrum viride in the treatment of puerperal eclampsia.

To Dr. Herbert Fearn, of Brooklyn, belongs the credit of having first introduced to the profession the use of veratrum viride in large doses in the treatment of puerperal eclampsia. This experience was reported to the Kings County Medical Society in 1869, and his paper on the subject was subsequently published in the *American Journal of Obstetrics*, etc., for May, 1871.

Veratrum viride seems to have been used by the physicians in Kings County, to some extent, in acute inflammatory and febrile affections, when the heart was sound; in early stage of disease, such as pneumonia, pleurisy, peritonitis, bronchitis, acute catarrh, orchitis, rheumatism, malarial fevers, also in aneurism, uræmic convulsions of Bright's disease, both acute and chronic, cardiac disease when the heart was not weak, ephemeral fever with high temperature, and in other conditions as an antipyretic; in neuralgia, puerperal mania, epilepsy, compression of brain, etc. In these cases the doses given is almost always a small or medium one, va-

rying from one-fourth to three drops (minims sometimes specified) of fluid extract, or two, six or eight drops of tincture (Norwood's sometimes specified) generally given by the mouth; and no nausea or vomiting, with two or three exceptions, is mentioned as having occurred in any cases reported. In general diseases, when convulsive action is manifested, the preference is given for method suitable in puerperal convulsive cases—five to fifteen or twenty minims of fluid extract or tincture, hypodermically. A few reporters have had unsatisfactory experience in failing to get desired effect, or in over action, sometimes of an alarming character, and given up the use of the drug and employ aconite in its place, or have used aconite from the beginning, and are disposed to stick to the use of a drug with which they are familiar from experience.

The following conclusions seem to be fairly deducible from the foregoing somewhat limited experience; that *veratrum viride* is employed by the profession in Kings County to a very limited extent; that, except in the treatment of puerperal convulsions, it is used in the method commonly recommended by the text books; that, in the management of puerperal eclampsia, it has been administered in large and sometimes heroic doses with no poisonous effects in most cases; and, where alarming symptoms have developed after its use, they have easily been relieved by usual remedies; that in health a large dose may produce both very alarming symptoms and death; that a tolerance of the drug is produced by vascular tension, common to many diseases; that it is a safe, certain and manageable vascular sedative; that, in order to control the convulsions of the puerperal state, it must be given in doses sufficiently large to bring and keep the pulse down to about sixty beats per minute, and that thus far it has given a mortality of thirty-one per cent.

DISCUSSION.

Dr. Jewet.—Mr. President, I am indebted to the Association for the honor and privi-

lege of being present at this meeting. I am especially interested in the paper of the evening, as I have made considerable use of *veratrum viride* in the treatment of eclampsia. I have not had time to put my experience in writing, but I have tabulated my cases and will present briefly my statements of the results which are practically embodied in the paper.

The number of cases which I have treated by this means is twenty-one. I have used this measure in nearly every case that I have seen for the last few years, particularly for the purpose of demonstrating the value of this drug, and for this reason I have more confidence in this than in any other measure that I know of for this purpose. Most of these cases were cases which I have seen with other physicians, and many of them are doubtless included in the summary contained in the paper already presented. Of these twenty-one cases, six, I believe, died. That would make a mortality about as reported—about twenty-five per cent, to thirty per cent. There were only three cases which died directly or indirectly from the effects of the eclamptic attacks, and the three out of the eighteen would make a mortality of about sixteen per cent., which is a lesser mortality than the average obtained by ordinary estimates. However, statistics are unsatisfactory, and especially so in these cases, for the reason that other treatment has been used in nearly every case. For example, chloroform, which is a very valuable agent, was used in almost all these cases, and is undoubtedly entitled to a considerable degree of credit; but it cannot be used for any considerable length of time, as it would be liable to lead to injurious effects. Other treatment has also been used in these cases, and it would therefore be hard to say how large a measure of credit belongs to the *veratrum*.

But there are only two things in regard to *veratrum viride* I would like to state. In my experience in every case, with a single exception, the use of that drug has reduced the pulse promptly to about 60; it has been

possible by the proper use of the drug in every case but one to bring the pulse below 60. That case was one in which the pulse could not be reduced below 100, and the eclamptic attacks could not be controlled. I have therefore come to regard this drug as a sheet anchor, for the reason that I can rely on it implicitly in any ordinary case to bring the pulse below 60.

The preparation which I have used has been, with two or three exceptions, Norwood's Extract. In regard to the dose: my experience leads me to think that the best method of administering the dose is in a fairly large dose at the start, in order to bring the patient promptly under its influence, and I have therefore given from 10 to 20 minims of the fluid extract as a beginning dose. The full effect of this dose will usually be developed within about thirty minutes, and then it may be repeated as may be required.

Another point in its administration which I think is equally important, is the necessity of giving it by the hypodermic method; it is ordinarily unreliable when given by the stomach, but you are quite certain, by the hypodermic method, of getting the full effect.

While, therefore, I hold in regard to the use of *veratrum viride* in eclampsia, that as it has been used with other agents, my experience is not conclusive as to the value of the drug altogether, I think it is conclusive enough as to the certainty with which we can control the patient's pulse.

In regard to the use of the drug in other cases, I have used it in a few cases of uræmia and with extremely satisfactory results. In those cases, however, the drug is used in a much smaller dose. In one of those cases there was a profound collapse; such that the by-standers supposed that the child was dying.

Dr. J. Watts.—Dr. Rushmore, in his first paper referring to *veratrum*, speaks of its being introduced in 1869 at a meeting of the Kings County Medical Society—at that meeting I was present. Two years passed before I had occasion to use the *veratrum viride* in

cases of puerperal convulsions. That case happened in the family, the wife of a prominent minister of this city, and I was very anxious about her. I gave her first five-drop doses, although Dr. Fearn had said teaspoonful doses. I found she had two or three convulsions before I came back again. I then ordered her five-drop dose every three hours. When I came back again I ordered 30 drops and I found the pulse, in about two hours afterward, came down to 60. I then gave her ten-drop doses, following that every two hours, and found the pulse came down to about 40. I became very much frightened and sent for Dr. Skene. In the meantime the family had become alarmed about her condition and sent for Dr. Gregory, who lived somewhere in New York, about Ninetieth street, but who has since died. We met there, and her pulse at that time was 45. We talked the matter over carefully, and they said to me, "Doctor, give her 5 drops more." And I assure you, I breathed freer than before. In other cases I have been called in consultation and advised the gentlemen to give 15 drops hypodermically, and that has been refused in one or two cases for fear it would cause death, but I said I would assume the responsibility, and in any case I have given it I have not known it to fail. I have always used Norwood's tincture, I do not know why, but I have not had confidence in the other tinctures. I can tell Norwood's tincture when I see it, and I know whether I get it or not but I have had no experience with the fluid extract.

One point in the matter is that when the patient's pulse reaches 60 or 65, he is sure to go into convulsions, there is no possibility of a doubt about it. His pulse must be kept below fifty-five or else you will have no good effect from the *veratrum viride*. I repeat that the pulse must be kept below 55 to get the effect. If it goes above 60 or 65, the convulsion is sure to occur.

I have so far been unable to ascertain, and I do not know at the present time what pe-

cular effect the veratrum viride has, and I ask if any one here can tell me exactly. What is its peculiar effect upon the system, excepting that he says it controls the spasm?

But one thing I want to impress upon the gentlemen, that you must get the pulse below 55; but, while you are doing that, you must do something else; you must get the kidneys to working; you must not forget your potash and your hot water applications to the back to get the kidneys into condition; and then, as soon as the albumen disappears, then continue your veratrum viride.

Dr. W. H. Williams.—Mr. President, I have not had a case of eclampsia since the veratrum viride has come into use. For many years I was accustomed, when I had cases of that kind to treat them as I was taught in our student days—by bleeding, antimony, etc.; and for some fifteen years I think I did not see a single fatal case; but at a later period I did. I began to have doubts about the propriety of bleeding, and saw one case where I was sure I did my patient harm by letting too much blood. The case did not terminate fatally, however. I am sure, if I should have a case now, I would try veratrum viride and would use it hypodermically; for, as you have stated, the stomach may be in such condition that it will not absorb the drug, which would thus be prevented from producing its proper effects. In one instance I gave to a man, some fifty or sixty years of age, the fluid extract of veratrum viride, five drops, which produced alarming prostration—no fatal or serious effect—but he was much alarmed and felt exceedingly bad at the time. It soon passed off, however.

Dr. W. H. Thayer.—Mr. President, In the paper read by Dr. Squibb, Dr. Stillé was quoted as expressing the opinion that veratrum viride was too dangerous to use, and yet, I am sure that Dr. Stillé in another place states that the veratrum is not a dangerous drug, could not kill, and that physicians need not be alarmed about it at all; that it passes off under the use of stimulants

within an hour or half an hour, and, unless a large dose has been taken, the time alone, without any stimulant, will repair the damage. And in the "United States Dispensatory" I think Dr. Wood quotes the case of a physician who took by mistake an ounce of the tincture of veratrum viride and survived. Of course he used prompt measures to get rid of it; but he was relieved, and the depressing effects did not last for a very long time.

I have nothing to add to the paper in relation to the use of veratrum viride in puerperal cases, in the use of which I thoroughly believe, but I wish to say that I have been in the habit of using it, since it has been introduced for the treatment of such cases, with decidedly good effects, and it never produced any bad symptoms or any serious depression, and was followed very rarely with vomiting. I have almost always carried a little vial of it in my pocket, and in cases of children from three to five years old, with convulsions, I have sometimes left the medicine at the house with directions as to giving it. I have used three drops of the tincture of veratrum viride, and followed it with two drops every hour until the child was entirely relieved. Then, in cases where we had a right to expect convulsions, from the general history of the child, they have been prevented, or, if they have occurred, they have been promptly relieved. I am sure, from the experience I have had in these cases, as in the cases of puerperal convulsions, I cannot regard it as a dangerous remedy to use.

Dr. J. H. Trent.—I would like to ask if there have been any statements of slough resulting from hypodermic injections of veratrum viride?

Dr. Rushmore.—When it was first used the question came up as to its being somewhat irritating. It was stated then to be irritating, but the testimony then was that it was not so, that no slough had occurred, that it was a perfectly safe and pleasant fluid to inject.

Dr. Jewett.—I have not seen a case of slough produced by the use of a hypodermic injection of *veratrum viride*, and I should be rather inclined to attribute such an appearance to the use of an unclean needle rather than to any fault of the drug. I have always put my needle into a gas flame before and after using.

Dr. J. B. Sullivan.—There is one effect of the drug which I have not heard mentioned here to-night, viz.: that it produces the most copious perspiration a few minutes after being administered. I think it also produces a saliva from the mouth. In the conversations I have had with other gentlemen who had used it their experience was the same, that it was very powerful.

In the two cases in which I have used it, it acted very well. In the first case the convulsions were controlled until after the child was delivered, and the patient lived for three days; then the convulsions came on suddenly, and before the physician could reach her, she was dead. The second case it was at the suggestion of Dr. Jewett, and in that case it controlled the convulsions, after the child was delivered, and the patient finally recovered. I do not think in either of those cases the pulse was brought down under 60. I have not used it much, because I was afraid to bring the pulse below that.

Dr. Williams.—About eight, ten or twelve years ago I saw in one of the journals a caution in regard to the use of *veratrum viride* in connection with large doses of aconite; I would like to inquire whether any gentleman has seen such an effect.

Dr. Sherwell.—There was a series of papers which extended over some years, which probably the old members of the Kings County Society will remember; and in one of these cases Dr. Bunker gave a record of a case of epilepsy in which there were ounces of *veratrum viride* used hypodermically, and continued for a long time. I think Dr. Rushmore would remember that case. It was stated that there was used something like six drachms a day, hypodermically, con-

tinuously for days and even for a week or more.

Dr. P. J. Pendergast.—I would like to ask the gentlemen who have had experience with *veratrum viride* as to treatment. I have not used it in cases of convulsions. I have always combined whisky with it as suggested, and I found that in those cases where I gave whisky with it that I had very little nausea, even with considerable doses. Sometimes I found vomiting and nausea and discontinued it and gave the whisky alone for a day or two with the desired effect, and then resumed the *veratrum* without any nausea.

Dr. McCollum.—Mr. President: It seems to me more than thirty years ago, when I commenced the practice of medicine, bleeding had not gone out of fashion, but it was growing into disfavor, and about that time arterial sedatives were studied with a great deal of interest, because we had to have something to take the place of the lancet, and *veratrum viride* was used to a considerable extent; used more, perhaps, than any other arterial sedative. I have used it for many years and find it an anti-febrile of great power, controlling the heart's action promptly and holding control over the circulation better than any other remedy that I have ever used.

I am sure I have cut short many an acute inflammatory attack by the prompt use of *veratrum viride*, but I finally abandoned its use largely for aconite.

Though aconite has not the power of the *veratrum*, in controlling the circulation, it is more manageable. I have seen *veratrum* produce very unpleasant collapse, marked prostration, nausea and vomiting, and I found that the aconite was a much more comfortable remedy to use; that it did not require that intelligent and careful watching that the *veratrum* requires. So, as I said before, I finally abandoned the use of *veratrum*. But I can now recollect cases where I believe that the *veratrum* served me better than any other remedy I could have used. I still remember a case thirty years ago of a child

ten years old that was in the second or third day of an attack of pneumonia, with the pulse 50 a minute; respiration 60 per minute, with a high temperature and almost livid look of the face. I put it on the *veratrum viride*, and the next morning, twenty-four hours later, feeling anxious about the child, I asked my partner, who was an older man in the profession, to visit the case with me. When we entered the room the child's face looked pallid. I felt alarmed at once, and, as I went to the bedside, the respirations were very slow; the pulse beat only 50 per minute; and my partner remarked to me, "Your patient is in collapse, and will live only a little while." I said to him, "I am not sure of that, doctor. I am inclined to think it is the medicine." The mother, hearing this remark, did not compliment me very highly, but came at me quite furiously, and accused me of killing the child; but the child was convalescent from that day, and made rapid recovery. I have had no experience with this remedy in puerperal cases.

Chair.—One case is reported, I remember, of the accidental taking of a fluid ounce of tincture *veratrum viride*, and the reasons stated why it did not produce death was that the alcohol counteracted the *veratrum*. Is there any person present who knows of a case where it has been used with *aconite*, or used in a parallel way to *aconite*, so that it could be compared with *aconite*?

Dr. Watts.—Before answering that question, in relation to the ounce of *veratrum* having been taken by mistake, the reason given was that the alcohol was an antidote to the poison.

Chair —Yes, sir.

Dr. Watts.—I can hardly believe that such could be the effect; because I cannot believe that an ounce of *veratrum* could be absorbed into the system, and that alcohol could not act as an antidote for the *veratrum viride*.

Dr. Lloyd.—Explained the symptoms in a case recently treated by him.

Dr. Segur.—I suppose the hour is past; but the interest I feel in the subject makes

me bold to ask a moment's time. It seems to me that if you are going to have an experience in the coming year, or any time hereafter, more favorable for *veratrum* than it has been in the past, since it has been used in Brooklyn, what we want to be sure of is a method. It seems to me that it would be well for this meeting to formulate a method for the use of *veratrum*, so that we could use it uniformly. It has been noticed in the paper that Dr. Rushmore read that the mortality has been more than thirty per cent. in post-partem and ante-partem cases; that is to say, that the mortality experience of Brooklyn, in the use of *veratrum* has not been much different from the experience of various other methods of treatment, and the casual impression would be that there was nothing particular in it; but it is also to be noticed that it has been given in an extraordinary variety of ways; from doses of one to two drachms or minims of various preparations, up to half a teaspoonful or a teaspoonful, and it has also been given by the stomach and hypodermically, and it was stated here to-night, by good observers, that it is unreliable by the stomach. The method, then, by which the agent has been used in times past, may have contributed to the uncertain showing of the statistics. It is further to be noticed that in the practice of Dr. Jewett, where we may suppose something like a more uniform method has been followed, the method of one observer that more favorable statistics have been secured, something like sixteen or eighteen per cent. being the mortality. That would seem to indicate that the *veratrum* used methodically is much more valuable than the statistics of the general use of it in Brooklyn would indicate. If I understood Dr. Jewett—I was not quite clear—this method is to commence with from 10 to 20 minims of the fluid extract hypodermically. I would like to know what induces him to use ten, or induces him to use twenty. I would like to know why he limits it in that way.

Dr. Jewett.—In regard to the reasons for

that dose, I could not say anything specifically and definitely, except that I make up my judgment from the general estimate of the character of the case, depending upon the rapidity of the pulse, and the degree of arterial tension of the patient. And yet I do not think there would be any danger, so far as my observation goes, in starting out with twenty-minim doses. A ten-minim dose, however, will in most cases bring the pulse close to sixty. As to the repetition of the dose, if the pulse doesn't go below sixty, as Dr. Watts has told us it should, the drug must be repeated in such doses as may be necessary to keep the pulse below sixty.

Dr. Segur.—How long does it take for the first dose to produce the effect?

Dr. Jewett.—The notes which I have preserved of the experience I have had in the use of veratrum, go to show that the pulse falls almost to the minimum in the course of thirty minutes. In some cases I have met, the pulse fell later to a lower point. Still, thirty minutes would be about the time necessary to develop whether a subsequent dose would be required. In regard to the certainty of this method of treatment, I will repeat one statement which I have made before in connection with this discussion in Kings County, and that is this: that in every case in which I have used the veratrum before the eighth or tenth convulsion, the patient recovered. Of course, that is a little unfair for the veratrum, however, as the chance to get well under any kind of treatment before the eighth convulsion would be better than later on.

Dr. Rushmore.—One point I wish to make, is in regard to the production of emesis. That is the only exception I take to the experience detailed here to-night. It does not seem to me that the production of emesis is the point to be obtained, but the reduction of the pulse. I think the relief of the tension of the pulse is the practical point.

Another point mentioned in the paper is that there is tolerance of the drug established

by the disease, which is one of the safeguards against its poisonous effects. There is nothing peculiar in that. There is a tolerance of all sorts of drugs produced by diseases; and just as in other cases there is a tolerance established for medicine, so there is a tolerance for this drug, established by the disease which it is intended to treat.

THE SOUTHERN
SURGICAL AND
GYNÆCOLOGICAL
ASSOCIATION.

The body which started out to hold annual meetings for the broad purpose of mutual improvement of its mem-

bers, marks an advance in Southern Medicine. Many of our best workers have hitherto gone East to attend the annual meetings of the so-called, American Associations of Specialists.

The danger is that opposition may spring up from a few of the elder brethren who feel they owe superior allegiance to the special societies of the East. This is a small danger however, and at most, only in the nature of a ripple across the placid bosom of the Southern Surgical and Gynæcological Association. This, with the Mississippi Valley Medical Association and the State Societies will afford the profession of the South plenty of opportunities to be heard. Great increase of influence and usefulness must come from the multiplication of societies in our midst. During the sessions of the Ninth International Medical Congress it was often remarked by the foreign members, that the profession of the West and South stood favorable comparison with their better organized brethren of the East.

The next meeting of the Southern Surgical and Gynæcological Association will be held at Birmingham, Ala., September 12th, 1888.

The officers are President, W. D. Haggard, M. D., Nashville, Tenn.; Vice-President, R. D. Webb, M. D., Livingston, Ala.; Orator, W. F. Hyer, Holly Springs, Miss.; Secretary, W. E. B. Davis, M. D., Birmingham, Ala.; Treasurer, H. P. Cochrane, M. D., Birmingham, Ala.

PATHOLOGY AND HYGIENE.

HYGIENE IN THE
PUBLIC SCHOOLS.

BY

MISS KATE PALMER,

*Of the Louisville Female
High School.*Read to the Public Health
Conference at Louis-
ville, May 24, 1887.

Shall sanitation be taught in all public schools; and, if so, how? is a question which has already been agitated by the sanitary authorities.

The ignorant household is one of the most formidable obstacles to the measures which sanitarians regard as essential for health. He indignantly resents investigation as to his manner of living. He declares that his dirt is his own dirt; that it's nobody's business how much he has of it, or what he does with it. I once heard an irate renter claim absolute control of his temporary domain "from the centre of the earth to the blue vault of heaven." To his notion a five-barred fence shut him out from all the world. His isolation was complete. Within this boundary he was free to do as he liked, live as he liked, and nobody would be the worse for this freedom. Probably twenty-five or fifty years ago his position would have been undisputed, when everybody was in a state of delightful ignorance, and science had enough to do in trying to find out how the solar system came into existence, and whether Mars and the moon were inhabited. The back-yards of one's neighbors were very little concern to any one, unless small pox or the cholera loomed in the near distance. But since Tyndall and Pasteur have become eminent, those heretofore innocent matters, the water we drink and the air we breathe, have assumed such a belligerent attitude that a change in public sentiment becomes imperative. Some of the most advanced of us feel impelled to leave the Polar Sea and Emir Pasha to take care of themselves, while we, peering over our neighbor's fence, sniff at his drain and speculate about his garbage heap.

The subject of education, like most other

great topics, is many-sided; it depends upon the stand-point whether this or that person is to be called educated. A man may understand Browning and enjoy the "Light of Asia," and yet know nothing of bacteria. This ignorance, so long as it is passive, may be condoned: but when it becomes obstructive, active measures must be introduced.

The Sanitary Commission is convinced the time has come when all the world equally should be illuminated on the nature of dirt. They believe that a knowledge of Greek will not excuse economy in washing, and the doctor's bill comes too late to be valuable as a remedial agent. Hence a call for sanitation to be taught in the public schools.

On entering this field, however, the proposition is confronted by the teacher prepared with several queries. First, in proposing that hygiene should be taught, does the Commission assume that up to the present the subject has been entirely neglected? or does he consider the amount of work now done inadequate? Second, does he hope by educating the children through them to instruct the parents? This last appears to me a doubtful proposition. Too often the matter of good drainage or a healthy cellar is a question of money, and a minor instilling precepts, however wholesome, so long as he is a consumer and not a producer in that household, is in a position neither desirable nor commendable.

To return to our first question: It appears to me highly improbable that the Commission is ignorant of the fact that physiology and hygiene are well established and honored subjects for instruction in most high schools throughout the country. Believing this, I am forced to conclude that the second division of that first question is the one open for consideration. Does the Commission consider the amount of work now done inadequate? or perhaps it is the method that fails in efficiency. But this opens up the whole question of education. What best to teach and how best to teach, are as yet the unsolved problems of the school-room.

Look at it for a moment. Think of the wealth of knowledge piling up from day to day, accumulating, pouring in, prodigious in quantity, from the orient to the occident, from the equator to the poles: learning of all sorts clamoring to be heard—urging its claims on the score of utility, of culture, of means for securing happiness, of means for earning the daily bread. What will it be safest and wisest to exclude? What *must* be taught? *What* shall be left untaught?

If school were a knowledge-mill and pupils a lot of empty vessels, teaching would be a kind of packing, and he would be the best teacher who would contrive to cram the most matter into the smallest space. Some people believe that school teaching is exactly that sort of work. Formerly, everybody supposed schools made learned people. But then, learning in those days wasn't so big a word as it is now. A "little Latin and less Greek," the *pons asinorum* and the "ease of a ready writer," graduated a student with considerable distinction. Now, however, what with the sciences and the ologies, the labor question, and Mathew Arnold, the would-be learned person has a hard time of it, unless he resort to specialties. Education, like other industries, appears extremely likely to differentiate in the near future. Should this take place, how much of the present curriculum will be retained as common property, and what part will become elective?

Some claim it is absurd to teach shop-girls and clerks Geometry and Latin; but on that principle one might add that reading, writing and fractions are plenty for them.

The other day I overheard, in the street-car, a young lady from our colored high-school remark to a companion, "I consider Hamlet a very metaphysical play!" They had been discussing Shakspeare as an author, and she evidently felt great personal elevation, soaring, in fact, to reach such a profound conclusion.

But what shall we teach? Reading, writing, spelling and arithmetic, of course.

Add composition, some geography and the history of our own country, and we get what might be called the back-bone of public-school work. These begin with the infant and relentlessly pursue him to the period of his emancipation. Now, if I am not mistaken, this Commission holds that sanitation shall become, as it were, the "Atlas" of education's vertebral column. Very well. Let us ask, then, what is meant by teaching sanitation? Shall the rules of health be hammered into the child's head by frequent iteration on the same method as the multiplication table? Shall we create a lot of young prigs learned in sounding words reeled off from glib tongues with parrot sharpness? Shall we offer a premium for cram? Shall we undermine all the child's native yearning for mud-puddles, and forever destroy his harmonious relations with dirt? On the other hand, are we to make fresh truths stale and flat by frequent repetition to heedless ears? The crookedly vicious way in which ideas too big for digestion get themselves twisted in immature brains, would be incredible to any but a school teacher except Mark Twain.

A pupil of mine in the high school once, in answer to a question about the "germs" in the air, delivered herself of this written statement: "Prof. Tyndall said the air is full of little animals and vegetables." One can't help asking where were her eyes and ears? What was she thinking about? The simple fact is, she wasn't thinking at all. She was reciting, frequently quite a different matter. There is a department in the elementary school course intended especially to wake up ideas in the child's mind. It is called the object lesson, and I have thought that possibly this department might be utilized as a sort of preparation for the study of hygiene. By limiting the "objects" used throughout the entire course to biological subjects, and by grading these on what is technically known as the "type plan," animal and plant organs, together with their functions, might be well learned

and fairly well understood. It is hopeless attempting to teach laws of health before anatomy and physiology are comprehended. As it is now, the major portion of the year devoted to physiology and hygiene in the high school is expended in teaching anatomy. For example, the eye keeps me some weeks dissecting, examining charts and models, drawing on the black-board, etc., before I can touch upon defects, how produced and induced, and the relation they bear to normal phenomena. The school year isn't long enough to do such an amount effectively.

If the Sanitary Commission feels that the coming generation does not promise as great an advance in knowledge of the laws of health as it ought, possibly one reason is too much lesson-learning; too much memorising of facts that have become stereotyped. During the past ten or fifteen years the general public, it seems to me, has grown better informed, hence the older pupils, at least, require something newer and fresher in their text-books. Old and hackneyed statements, however true, lack vividness and fail to make much impression. For example: The first year that I urged the responsibilities of the bread-maker on my class I created a sensation. But to-day, what with the magazines relating to drunkenness, to slovenly housekeeping, and the like preachments of the W. C. T. U., all that the teacher can say on the subject skirts perilously on platitudes. One thing that impresses me more than almost anything else in my daily work, is the extreme difficulty in producing conceptions. It would be almost comical if it were not so serious. Now, the immensity of space and the minuteness of matter seem to make no impression at all. That Canopus is twenty trillions of miles distant, and that a blood corpuscle is 1-3600 of an inch in diameter, are accepted with equal indifference. The various organs in one papilla do not appear to surprise the average girl, although she states glibly there are 20,000 to the square line in the palmer

surface of the hand. While she will repeat fluently the sources for corrupting water supply, and the contamination to which milk is liable, she hasn't the faintest notion of a "germ." In her mind there is no distinction between a *ferment* and *fermenting*, and putrefaction means a bad smell and nothing more. A year or so ago a pupil remarked in the class one day that the doctor said a friend of hers, then ill with diphtheria, had "worms in her throat," and asked whether I believed it. This year I have been experimenting by showing my class bacteria in stagnant water. Of course the difficulty is the high power objective required. One microscope is slow work for a class of thirty five. With a projecting lens I hope to accomplish more. With this a better notion of a cell, too, is possible, and of the ratios of starch deposit, of albuminous material, etc., in common articles of food.

* All this requires time, also a considerable knowledge of botany. But so far as I can judge, both from reading and from my own experience, there is a growing necessity for that sort of teaching which will force us to *find* the time and the means in one way or another.

A good text-book is a great help. Prof. Henry Sewall, of the University of Michigan, says: "A text-book of physiology for schools should contain accurate statements of facts. Secondly, the facts should not be too numerous, but chosen so that the important truths are recognized in their true relations. Thirdly, that the language should be so lucid as to give no excuse for misunderstanding." This last point is well taken. Sometimes I find myself impelled to dive down into a regular mire of nonsense and drag out my pupils by the hair of the head; and particularly is this the case when the text-book gets too oppressively learned.

There is another aspect of this subject which is, perhaps, worthy of attention for a few moments. Physiology and hygiene appear almost miraculous in their power to unearth time-honored superstitions, curious

forms of credulity, etc. Such matters come up for discussion from time to time, as "mind-reading," spirit-rapping, phronoiigy morality of cremation, faith cure; the pain suffered by cripples in their dead limbs; the the growth of dead hair; remarkable results from snake bites, etc., etc. These mental features, common enough in the great middle class, must impede reform not a little. They appear to represent the grain of the true wood under the veneering of modern education. Even after no end of first-class training their position toward these old-world notions recalls what Bayard Taylor says in the *Howadji* about regarding Friday as an unlucky day: "Although we don't believe in the superstition, it is safest not to go against it."

In conclusion, I will briefly review the field just passed over. Physiology and hygiene already have a place in our schools. Whether the amount of time devoted to them is sufficient, depends upon the sum total of work expected. So far as teaching little children laws of health is concerned, I doubt its expediency. There are two objections. 1st. The danger of the child's learning them like a parrot. 2d. The reflex action on the laws themselves, making them stale, trite and threadbare by the time the pupil is old enough to think. If an irresponsible child knows enough to keep his face clean, and not to go to see a friend coming down with scarlet fever, that is about all one could expect. But the whys and wherefores it seems absurd to inflict upon him. On the other hand, that period is wide-awake with opened-eyed curiosity. The amount of investigation and original experimenting they carry on in spite of us is amazing. Some years ago a little girl friend asked me whether I knew that if you cut off a devil's race horse's head, and then stand him up, he will walk after his head. And another child once told me that he and some companions had been cutting off turtles' heads and then watching them swim. I shall never forget the vivid impression made upon me, a child

of thirteen, when Dr. Dalton showed us the circulation of blood in a frog's foot.

This character of the child to receive impressions through his senses quickly and delightedly fit him to be taught biology to a certain extent.

The principal objection to relegating all the teaching of hygiene to the higher schools, is the fact that so small a percentage of the thousands of school children ever get into the high schools. Still it is here, and with these better developed brains, that the work should be done mainly, as I have already said, because here the reason is developing into activity.

The best method to be adopted is probably open to discussion. My personal experience has led me to work mainly in the direction of trying to develop conceptions. This point I have already expanded to a considerable length.

The fact that so many children leave school while still very young, might call attention to the truth that the lower class of people, who are mainly the centers of dirt and disease, get the least schooling. Many never go beyond the mere rudiments. It is the middle class upon which the best work is done. Now it is difficult to draw the line accurately between those two strata, and the prospects of the future will largely depend upon the educated demands of those that skirt the border line. Let us hope, then, to so stamp this pioneer in embryo that the good times coming will always find his drain in order and his ash barrel ready for the dust cart; that his children will be properly vaccinated, and the sacred assafoetida bag will fail to appear in times of small-pox; that his helpmeet will make good bread and broil her beefsteaks; that patent nostrums will not garnish his mantel-piece, and soothing syrups stupify his babies. Success to him. May his good example infect the neighborhood, and the kingdom of health, good cooking and cleanliness be established.

EPIDEMICS.

BY

GEO. M. STERNBERG,

M. D.,

Maj. and Surgeon, U. S. Army.

An address to the American Public Health Association at Memphis, Nov. 8, '87.

I am sure that all of the older members of the American public health association feel, as I do, that our meeting this year has a special interest due to the locality in

which we meet. We feel that the good city of Memphis is, in a manner, a protege of our association, because in her hour of distress she appealed to some of our distinguished members for sanitary counsel, and acted upon the advice given; and we recognize the fact that in more than one way our relations to this city are exceptional.

It was due to the yellow fever epidemic of 1878, in which Memphis was the chief sufferer, that steps were taken at our meeting of that year, in the city of Richmond, to urge upon Congress the importance of a National board of health. Recognizing the fact that epidemics do not respect State boundary lines, and that an efficient sanitary service in times of emergency requires a liberal expenditure of money, and unity of action on the part of sanitary officials, we urged the formation of a central health board, and for a time it seemed as if our well meant plans would be crowned with success. Indeed, they were crowned with partial success, for all must recognize that in the early days of its existence the National board of health accomplished much good. It is unnecessary for me to refer to the various circumstances which conspired to paralyze the effective energy of this board. Unhappily it is a thing of the past, and the hopes which we had founded upon this our bantling are but a memory of the past. But we should not be discouraged that our first effort has failed. A careful consideration of the circumstances which led to this failure may enable us to mature a better plan. Such a plan, endorsed by the judgment of the experienced sanitarians here assembled,

and properly presented to our national legislators, could not fail to receive respectful attention.

One thing appears to me to be thoroughly demonstrated by the experience of the past, namely: That a central health board, to be efficient, must be attached to one of the departments of the government now in existence, so that it may be under the protection of a Cabinet officer. It would be useless to ask at the present time that the sanitary interests of the country may be represented by an additional Cabinet officer, a minister of public health, although there can be no doubt that the interests involved are sufficiently important to justify such an innovation. But we may at least demand that the sanitary interests of the people of the United States shall receive the same consideration from the national government that is accorded to the educational interests, the agricultural interests, etc. We may at least ask for a bureau of public health, with a commission at its head, and with the necessary secretaries and clerical force to make it efficient; and attached to such a bureau should be a well equipped laboratory in which expert bacteriologists, chemists and sanitary engineers should be employed in the experimental investigation of unsettled sanitary problems, such as the natural history of disease germs, the best methods of destroying them, protective inoculations against infectious diseases, problems in sanitary engineering, such as the disposal of sewage, domestic sanitation, etc.; food adulterations, and a variety of other questions of equal importance which will readily occur to you. I do not approve of the plan of having a central board of health, composed of members located in various parts of the country. Such an organization is cumbersome, and it cannot be expected that a board which is only assembled at long intervals, and of which the members are occupied by various pursuits, which claim their time and best thought, will render the most efficient service. On the other hand, by diversity of

opinions they may greatly embarrass their executive officer, who must necessarily be located in Washington. Nor, in my opinion, would a board composed of officials at the head of various departments in Washington, such as the surgeon general of the army, the navy and the marine hospital service, as has been suggested, be much better. These officials are fully occupied with the duties pertaining to their office, or at least have not sufficient leisure to undertake the executive work of a central health bureau. I would therefore expect better results from the untrammelled action of a single commissioner, who would be responsible directly to the Cabinet officer to whose department his bureau was attached, and who would necessarily be controlled by the law defining the nature of his duties. In this case it is evident that the good accomplished would depend largely upon the fitness of the man selected for the special duties entrusted to him, and that a political appointment in the first instance, or the removal of a suitable man for political reasons would entirely defeat our object.

We may, however, ignore this possibility, and trust to the good judgment of the chief executive and the growing public sentiment in favor of retaining efficient bureau officers without regard to party changes.

In connection with a bureau of public health, it would certainly be desirable to have an advisory board of health, to which the commissioner could refer questions for the consideration, or which could advise him of new measures, or desirable changes in his regulations, which, after full discussion, commended themselves to the judgment of the board. Such a board should have no executive power, and the members should receive no pay beyond their actual expenses in attending their appointed meetings. I would suggest that such a board should consist of the surgeon-generals of the army, the navy and the marine hospital service, and of the presidents of State boards of health. One annual meeting in Wash-

ington would probably answer the purpose for which a board would be constituted, except in case of an actual or threatened epidemic, when it might be convened, at the suggestion of its president, or of the commissioner of health.

I request your careful consideration of the plan here suggested, and if it meets your approval, would urge the importance of taking such action at the present meetings as will insure its being properly brought before the Congress of the United States.

My reference, at the outset of my address, to the Richmond meeting of this association will recall to those of you who were fortunate enough to be present at that meeting the very great interest which attached to the reading of reports upon the epidemic of that year; especially will you recall the scene when our lamented colleague Dr. Samuel M. Bemiss, of New Orleans, occupied the platform. Surrounded by diagrams showing the typographical features of the towns in the great Mississippi valley which had suffered most from the epidemic, and with tabular statements of population, mortality, etc., Dr. Bemiss, with the clearness and precision which characterized his delivery, passed in review the terrible record of the devastating pestilence. His genial and rugged face aglow with humanitarian zeal and an intelligent appreciation of sanitary lessons, conveyed by the stern facts which he presented to us, made an impression upon my mind which will not soon be effaced. Alas, that he is not here with us to congratulate the good citizens of Memphis upon the favorable change which has occurred in their sanitary surroundings since the date of which we are speaking.

Sanitarians recognize the fact that epidemics are often blessings in disguise, just as great fires may be in badly built cities. Certainly not a blessing for those who suffer directly from the scourge, but the traveller, who sees broad and well paved streets, substantial and well ventilated dwellings, and a healthy looking population, where formerly

narrow, filthy and crowded tenement houses occupied the ground, may be excused for looking upon the conflagration which cleared the way for such improvements as a blessing. So, too, sanitarians, recognizing the fact that in many instances nothing short of an epidemic will arouse the people to take action with reference to sanitary improvements, cannot fail to see that the benefits which result from an epidemic of cholera, or of yellow fever, in the long run may more than compensate for the distress and loss of life which attends them. A cholera epidemic which decimates the population of a town without sewers or proper water supply will prove a blessing in the end if it leads to the introduction of an ample supply of pure water and a system of sewerage by which the mortality from typhoid fever and other epidemic diseases is greatly reduced. But this mode of obtaining sanitary improvements is an expensive one, and rather hard on the victims of the epidemic.

The members of this association, therefore, actuated by a humanitarian spirit, desire to secure these benefits for every town in this broad land, if possible, in advance of the scourge which is sure to come some day if their warning and the lessons of the past experience do not suffice to arouse the insanitary towns to a sense of the risks they run. It is a remarkable fact that in matters of this kind individuals and corporations are slow to profit by the experience of others, and that it is commonly only when the fatal results of neglect are brought under their immediate observation that they are ready to apply the remedy, which is necessarily more or less expensive. We all remember how promptly the people of Memphis responded when the epidemic stimulus was applied, and we have heard much of the sanitary improvements which have been made in this city since the memorable year 1878. Many of us are here for the first time, and, as I have said, this meeting possesses special interest for us because it enables us to see for ourselves what

has been done in order to put Memphis in a state of defense in the event of another yellow fever epidemic in the Mississippi valley.

Do not allow yourselves to fall into a state of inaction and false security because for several years our foe has been kept at bay. Although it is now evident that yellow fever is not epidemic in any portion of our land, and we have learned by recent experience that by proper methods it is possible to exclude it for a series of years even from the city of New Orleans, yet there are so many possibilities of its introduction, in spite of the vigilance of those who have charge of the gateway of the Mississippi valley, that it would be folly to neglect those local measures of sanitation which remove the vulnerability of cities in the presence of the germs of pestilential diseases. Shutting the door is of prime importance, and while the keys are in the hands of our energetic and able colleague, Dr. Holt, we may feel comparatively safe. But the efficient president of the Louisiana State board of health cannot guarantee that all avenues of approach are securely guarded, inasmuch as some of these avenues are quite beyond his control. This is exemplified by the Biloxi epidemic of 1886. Local outbreaks such as that at Biloxi, and the epidemic at Key West and at Tampa during the present year, show that the conditions upon our gulf coast are no less favorable to the presence of yellow fever than they were in former years, and that our immunity depends solely upon the exclusion of an exotic germ. Unfortunately, also, the Biloxi epidemic illustrates the very greatest liability of physicians to fall into error with reference to the diagnosis when yellow fever unexpectedly makes its appearance outside of its habitual range. History repeats itself in this particular. The early cases in an epidemic, which are often mild; are pronounced to be malarial fever, and this diagnosis is often sustained by those who have committed themselves to it, when no reasonable doubt

remains in the minds of unprejudiced physicians as to the true nature of the malady.

The question whether it is practicable to make a city, which lies in the area subject to invasion, proof against epidemics of yellow fever and cholera is one of the very greatest importance. At the International sanitary conference of Rome the delegates from England and from India opposed all quarantine restrictions as unnecessary, and pointed to the fact that for years there has been constant and free communication between cholera infested ports in India and the seaport cities of England, but that cholera had not effected a lodgement in that country. Dr. Thorne Thorne, of the local government board, a delegate to the conference, ascribed this immunity to the sanitary improvements which have been carried out in England during the past ten or twelve years. He stated that, during the period included between the years 1875 and 1884, an amount exceeding six and one-quarter millions sterling per annum had been expended in England "under private and public act: mainly of a sanitary character." Dr. Thorne Thorne, in his report of the proceedings of the conference referred to, says,

"Lastly, I would note that I took occasion to explain to the technical commission that expenditures, such as I have referred to, are, with only trivial exceptions, voluntarily incurred in the interests of public health.

"I then went on to show, in connection with this expenditure, that the average mortality for England and Wales was now only 19 as opposed to 22 per 1,000 in the decennial period of 1861-70, and this notwithstanding increase in population of some 5,000,000, and taking the continued fever mortality of this country as that which, in point of causation, most nearly resembled cholera, I pointed out that, whereas, in the five years, 1865-69, this mortality was at the rate of 934 per 1,000,000 living, it had steadily fallen to 428 per 1,000,000 during

the period 1880-82, and that it is now only 307 per 1,000,000."

In a later communication, published in the *Practitioner* for October, 1887, Dr. Thorne Thorne gives fuller details of the English system of protection against cholera as follows: "Having deliberately abandoned the system of quarantine, we began many years ago to organize the system of medical inspection with isolation. The medical inspection comes first into operation on our coasts. The customs officers board the vessel coming into our port and they at once communicate to the sanitary authority the occurrence of any case of cholera, choleraic diarrhea, or suspected cholera. A vessel so affected is detained until the medical officer of health has examined every member of the crew and passengers. Those actually sick of cholera or choleric diarrhea are at once removed to the port sanitary hospital, and any person certified to be suffering from any illness which that officer suspects may prove to be the cholera is detained for a true period of observation not exceeding two days. The medical inspection is thus followed by isolation of the sick. Unlike a quarantine system, this process does not interfere with the healthy, or expose them to risk by herding them together with the sick, but the names of the healthy, and the places of their destination, are taken down, and the medical officers of health of the districts in question are informed of the impending arrivals. This part of our system has been named our first line of defense, but it would be of little value if we stopped there. Our main trust is in the promotion of such local sanitary administration in every part of the country as shall rid us of the conditions under which alone cholera can spread. In periods of emergency, as during the past three years, a special medical survey of such districts as are most exposed to risk is organized under the supervision of the medical officer of the local government board, and where needed the sanitary authorities

are urged to action. Important as have been the results of the recent survey, they would go for little were it not for the steadily maintained work of the sanitary authorities and their officers throughout the kingdom; and we who have been taunted abroad for opposing quarantine, because its restrictions touched our commercial interests and pockets, may justly feel proud that in England and Wales alone the people have, during the past ten years, of their own accord, and apart from government dictation, spent by way of loan or in current expenditures, over £80,000,000 sterling for purposes mainly of a sanitary character. And we may fairly ask whether any corresponding expenditure has in other countries given evidence of real faith in a quarantine system."

Without denying the value of the sanitary improvements which have been carried out in England, and the possibility that her immunity from cholera is largely due to them, the delegates from more exposed countries, such as France and Italy, demanded a quarantine station upon the Suez canal, and pointed out the fact that their seaport cities were not in such a sanitary condition that they could hope to escape the ravages of the pestilence, in case of its introduction, and that to place them in such a state of defense would require time and the expenditure of large sums of money. It was noticeable that those countries, such as Turkey, Egypt and Spain, where sanitary improvements have made the least progress, were the most exacting with reference to quarantine restrictions. They evidently looked upon these as their only hope, and were advocates of the old-fashioned time quarantine, which, as carried out in these countries, has often been attended with barbarities which are intolerable for civilized nations. Self preservation is, indeed, the first law of nature, but it is barbarous to sacrifice the life of another to save our own, and in guarding the lives of a community, we are bound to show due consideration

for the health and comfort of those who are believed to be the possible bearers of disease germs.

Recognizing this humane principle, a majority of the delegates to the sanitary conference of Rome were anxious to effect a compromise between the old-fashioned time quarantine and the British practice, which they could not rely upon for the countries of southern Europe. It was believed that such a compromise was practicable, and that the plan agreed to by a majority of the delegates present was more reliable than a simple quarantine of detention. I must refer you to the published transactions for the details of this plan; but, in brief, it consisted of a sanitary supervision of ships at the port of departure, when this was an infected port or in communication with an infected locality; in the sanitary supervision of ship and passengers while in transit, by a properly qualified physician upon all passenger ships; and in such detention at the port of arrival as might be necessary for the disinfection of the ship, the personal effects of the passengers, etc. If one or more cases of cholera should appear on board during the voyage they were to be isolated and rigid measures of disinfection carried out, and the action of the health authorities at the port of arrival was to depend largely upon how effectively this had been done. In short, the treatment of the vessel and its passengers was not to be determined in advance by arbitrary rules, but was to be governed by an intelligent consideration, by an expert, of all the circumstances relating to the sanitary history of the ship from the date of its departure from the infected port. This rational quarantine service, which is far less burdensome to the commerce of a country than the arbitrary time quarantine of former days, has proved itself to be also more effectual in accomplishing the end in view. This is amply proved by recent experience in our own country, where, to a large extent, the principles indicated control the action of the health officers of our prin-

cial seaports. Look at the city of New Orleans, where epidemics of yellow fever were formerly so frequent as to lead to the belief that the disease was epidemic, and a necessary evil appertaining to the situation of the Crescent City. Happily, under an efficient quarantine service, she has now a record of seven years' exemption from the dreaded pestilence.

It is, perhaps, too soon to speak with confidence with reference to the action taken by the sanitary officials of the port of New York upon the recent arrival of two cholera infected vessels from the Mediterranean, but we have good reason to hope that the measures taken will prove sufficient, and that this pestilential disease, which has for several years been threatening us from a distance, has not effected a lodgement upon our shores. Whether it would be practicable to put our seaports in such a state of sanitary defense that it would be safe to open the door and defy the foe is extremely doubtful. I have never believed that yellow fever was excluded from New Orleans in 1862 and 1863 by the sanitary regulations enforced by Gen. Butler, as has been claimed. The exemption from this disease enjoyed by the unacclimated soldiers from the north, who filled the hospitals in that city at the time mentioned, was due, in my opinion, to the absence of commerce during the military occupation of the city and to the rigid enforcement of quarantine restrictions.

But I do believe that this and other cities similarly located can be preserved from such devastating epidemics as have too often occurred in the past, and that by the carrying out of needed sanitary improvements and the constant supervision of expert sanitary officials, supported by an enlightened public sentiment and sufficient appropriations, the ravages of pestilential diseases may be restricted within very narrow limits.

As regards cholera, the system of local defense is even simpler than in the case of yellow fever. Ample evidence demonstrates

that the epidemic extension of this disease depends largely, if not exclusively, upon the water supply. Where this is subject to contamination by the discharges of the sick, there cholera is apt to become epidemic. On the other hand, cities like Rome, in Italy, which have an ample supply of pure water, drawn from a source not likely to be contaminated, seem to be cholera proof, notwithstanding the filth and squalor in which a considerable portion of the population live. The same thing is seen in Naples, which, in 1884, suffered terribly, but which, since the completion of its new system of water works in 1885, has enjoyed a comparative immunity, notwithstanding the fact that cholera still prevails in Italy, and that we have evidence of its presence in a malignant form in the city referred to. When I was in Naples, in 1885, the mayor of the city invited a number of the delegates to the sanitary conference to the municipal palace, for the purpose of conferring with them with reference to projected sanitary improvements, and especially with reference to the best system of sewerage for the city, which, up to the present time, remains destitute of sewers, and which, I may add, is a noted stronghold of typhoid fever. In the course of the conversation, I suggested to the mayor Col. Waring's American system, which has been tested with such favorable results in this city. My recommendation was sustained by the distinguished German bacteriologist, Dr. Robert Koch, who was one of the delegates present. I may remark that I have recently received a letter from Dr. Koch, asking me to give him full particulars with reference to the details of this system as carried out in the city of Memphis.

I am not willing to leave the subject of quarantine, to which I have briefly referred, without placing myself upon record with reference to a matter in connection with it which I consider one of the greatest importance. The practice which has come down to us from former times, when questions relating

to abstract justice and individual rights had but little consideration in face of a danger to the community, of taxing commerce for the support of quarantine establishments, I consider one that is wrong in principle and unjust to those who are required to bear the burden. It seems to me to be evident that the people protected should pay the cost of such protection, and that quarantine establishments should be supported at the expense of the national government, or of the states in which our seaports are located, and not by a tax upon the shipping entering these ports. I am not so much concerned, however, with the unjust tax upon ship-owners as with the gross injustice to passengers, practiced at many ports in various parts of the world, when they are so unfortunate as to be detained at a quarantine station. Humanity demands that a sick person who is detained for the protection of a community should receive the best possible care, and justice requires that both sick and well, while detained at a quarantine station, should be well fed and well lodged without expense to themselves. Moreover, at a quarantine establishment which is supported by a tax upon ships and upon the passengers detained, an unscrupulous official may add to the hardships of passengers the barbarity of an unnecessary detention from a venal motive. I trust that such things do not happen in our country, but to show how unjust the principle of taxing the passenger for his support while under detention in quarantine is, I will mention a circumstance which recently fell under my own observation:

When I left Brazil in the month of August last, small-pox was epidemic, both in Rio de Janeiro and at Para; our ship touched at Para and five days later at Barbadoes. A passenger for this port was not allowed to land, because of the prevalence of small-pox in Brazil. Proceeding to St. Thomas, less than two days' sail from Barbadoes, our passenger was again refused permission to land, except to go to the quarantine station for a certain number of days. This was all right, but the

conditions upon which he would be received seemed to me to be all wrong. Either he himself or the ship must guaranty the payment of the quarantine fees, which would be \$3 a day for his board and \$5 a day to the quarantine physician if he were alone. If others were at the station at the same time this fee would be divided between them. One can easily imagine what a hardship such a tax would be for a person of limited means, who had only provided himself with funds for the journey he had undertaken. The agent of the ship refused to take any responsibility, and our passenger had no resource but to submit to the imposition or to come on to New York, paying his passage to that port.

As another illustration of the evils arising from the present system of supporting quarantine establishments, I will mention a circumstance which occurred upon our arrival at the port of New York. With the deputy health officer, who boarded our ship, came a man with a jug. I was informed by one of the officers of the ship that he was to disinfect the vessel. Being somewhat curious to know the method of disinfection employed, I asked the ship's surgeon to go with me to inspect, when, after a detention of less than one hour, we had started from the quarantine station for our wharf. We found that the man with the jug had lowered a bucket by means of a rope through one of the hatches between decks. Upon pulling up this bucket I found that it contained two or three pounds of some powder which had been wet, probably with acid solution, and which gave off an odor of chlorine. No doubt when first lowered between decks there had been a considerable evolution of chlorine, but in the vast space to be disinfected, it was so diluted that at the end of an hour I did not detect the odor of chlorine gas when I lifted the hatch, and it was only by approaching my nose to the bucket that I was able to ascertain what disinfectant had been used.

(CONTINUED.)

BOOKS AND PERIODICALS.

ABDOMINAL

SURGERY.

BY

J. GREIG SMITH,

M. A., F. R. S. E.

*Surgeon to the British
Royal Infirmary.*

Philadelphia; P. Blakiston,
Son & Co., 1887. Pages xii.
606. Illustrated, etc.

The task of the reviewer, when conscientiously executed, is at once difficult and responsible. Indiscriminate praise of a work upon the one hand and carping criticism upon the other, are alike easy of accomplishment and

equally unjust. A review should aim at at something higher upon the subject treated in order to merit confidence and thoughtful consideration. To do, is difficult, to criticise, is easy. It is to be regretted that medical literature constantly furnishes examples of hasty criticism and extravigant commendation from the pen of those practically unacquainted with the work under consideration. Fully appreciating these facts, the writer enters upon the review before him with the hope of presenting the reader a fair estimate of a work devoted to a comparatively new and rapidly growing branch of surgery, which is now for the first time treated in a systematic and distinct volume. Fifteen years ago the abdomen was to the operative surgeon a closed cavity. With the exception of a few daring operators, known as ovariologists, where mortality was heavy and whose work was regarded with disfavor by the profession, surgeons steered clear of every operation involving the peritoneum. Within this brief period ovariectomy has become the most successful major operation in surgery, and every organ in the abdominal cavity has been brought fairly within the realm of conservative surgery. Pathological conditions hitherto unknown have become recognized; obscure conditions of disease have become subjects of exact knowledge, and practical results have been attained in treatment which make the surgery of the abdomen the crowning glory of the healing art. To

gather from isolated monographs the incomplete work already done; to estimate the value of work in progress; to reconcile the conflicting views inseparable from a new and rapidly growing branch of knowledge, and formulate a treatise thereon, is a task both difficult and extensive.

This is the work our author has undertaken, and the results of the labors is before the profession.

The book is composed of twelve sections, and its scope can be best indicated by their enumeration:

Section I.—Diagnosis of Abdominal Tumors.

Section II.—Abdominal operations considered generally.

Section III.—Operations on the Ovaries, the Fallopian Tubes and the Broad Ligaments.

Section IV.—Operation on the Non-Gravid Uterus.

Section V.—Operations on the Gravid Uterus and for Ectopic, Gestation.

Section VI.—Operations on the stomach.

Section VII.—Operations on the Intestines.

Section VIII.—Operations on the Kidneys.

Section IX.—Operations on the Liver and Gall-Bladder.

Section X.—Operations on the Spleen.

Section XI.—Operations on the Pancreas.

Section XII.—Unclassified Operations.

The first section, after giving an outline of the Typographical Anatomy of the Abdomen, gives forty-five pages to diagnostic methods as applied to the various organs within the abdomen and pelvis.

In this, as in the section devoted to operative, Mr. Smith shows that to his experience in dealing with this class of affections he has joined the knowledge and experience of others engaged in the same investigations.

Indeed the bibliographical table appended to the work shows that from the current

literature of all countries and all languages he has gathered everything touching abdominal surgery. Yet, it is evident that his own knowledge, exercised with due regard to the observations of others, and subjected to the crucial test of personal experience, is relied upon. The entire work is thoroughgoing and original, not a compilation of the work of others. Mr. Smith is comparatively a young man. He is a general surgeon, and has brought to his work in abdominal surgery a rich experience and careful training in the other branches of surgery. He did not commit the costly error of learning operative surgery in the abdominal cavity. In his service as Surgeon to the Bristol Royal Infirmary he has done fifty ovariectomies with only one death, and that was from intestinal obstruction. In private practice he has done twenty-four ovariectomies, with three deaths.

One of these was from acute mania fourteen days after the operation, the patient having had puerperal mania in two confinements. In one of the other deaths was in the case of a woman weighing 280 pounds, with an universal adherent tumor, which had been seven times tapped. The third death was in a case of suppurating dermoid cyst, the patient reduced to a low point by hectic. This is an exceptional record, and when we add to this experience that of the author in laparotomy for other conditions than ovarian tumors, we must necessarily concede to him the right to speak with authority upon the surgery of the abdomen.

We may justly presume that he has faithfully aimed to reach the standard which he himself lays down, and which is thus stated in Section II:

"A man who enters the abdominal cavity ought to do anything from ligation of a vessel to resection of the intestine. We can rarely diagnose perfectly before hand the state of matter inside an abdomen which we open, and we ought therefore to be able to treat anything which we find when we enter. Dexterity here comes from knowledge as much as from practice.

To be prepared at the appearance of any complication to apply the best known surgical techniques; to do what is wanted and no more than is wanted; to have the manner and method of each procedure mentally laid down in clear and definite lines; and generally to perform the operation in steady, straight-forward, workmanlike manner. * * Abdominal surgeon is no longer a field for legitimate and versatile experiment; certain fixed and useful laws and customs have been laid down by the dearly-bought experience of great men; the abdominal surgery ought to begin fully equipped with such knowledge as has been gathered for him."

After a careful examination of his work, the writer is convinced that in the above quotation the author has fixed his standard and has conscientiously worked toward it.

It is exceptional to find a treatise upon surgical or gynecological subjects so free from pedantry and individual advancement as is the one before us. We find due recognition accorded the work associated with the great names of abdominal surgery with well-expressed appreciation, but without regard to the dissensions of individual opinion. The author has with an honesty most commendable stripped the various subjects of all controversial personalities, and earnestly presents the facts without regard to individual prominence. This is an important feature in estimating the scientific and practical value of any work in the present status of our literature. What the practitioner wants is down-right facts, and that too without the essential prominence of individuals.

Before the introduction of antiseptic methods into surgical practice the surgery of the abdomen was limited to ovariotomy with severe mortality. With the elimination of septicæmia came the enlarged scope of abdominal surgery and the brilliant results of the present era. Recognizing the so-called antiseptic method—or if preferred the method of exalted surgical cleanliness—as the most important single contribution made to abdominal surgery since the days of McDowell. We turn at once to the author's

utterances upon that subject. He declares that the surgeon must aim at the perfect purity of everything which come in contact with the peritoneum. The greatest risk of peritonitis arises from impurity of hands, sponges, instruments, etc. If thorough cleanliness is attained by the use of soap and water, with a pure atmosphere, all is well; if, however, a perfect degree of cleanliness can only doubtfully, or approximately be attained in a given case, then the author believes that absolute security can only be had by the use of germicidal agents. This is a clear and practical enunciation of the principles of Lister.

The spray he pronounces, and properly so, are unimportant details in the system of surgical cleanliness aimed at by the application of Listerian principles. Perfect cleanliness of the patient; cleanliness of the surgeon and assistants; absolute cleanliness of hands, sponges and instruments, these are the requisites for securing the results made possible by the antiseptic system. The use of germicidal solutions is determined by the surroundings of the patient and the individual requirements of cases. In view of the heated discussions now so common among eminent surgeons engaged in abdominal work, the following quotation is of interest:

"When the spray is condemned by such men as Keith and Tait on the one hand, and upheld as beneficial by such men as Thornton and Wells on the other, we may safely conclude that, under any circumstances which may be common to all their patients, it is unimportant."

The author inveighs against the error of attempting to *disinfect* noxious and filthy matter instead of removing it, or of becoming careless as to cleanliness in consequence of the use of germicidal agents. He believes in thorough ascitis *ateained* and *maintained* with the aid of antiseptics. By the term *filth* he, of course, means those micro-organisms which when admitted into wounds beget the fermentative processes ending in suppuration and septic infection.

The first system of the antiseptic system as laid down by its author is to prevent the entrance of micro-organism into wounds; and the second consists in the use of such agents as will render them harmless if perchance they be admitted.

The author evidently bases his practice upon a clear comprehension of these principles, and regards it immaterial whether the degree of surgical cleanliness aimed at be acquired with or without the spray, with or without chemical antiseptics, so that the desired condition is surely acquired. He regards sepsis the great risk of peritoneal surgery and looks to cleanliness and germicide for its prevention. Avoiding the confusing theories of experimental research and the details of bacteriological investigation, he treats the subject wholly and alone from the standpoint of the practical surgeon.

That the teachings of laparotomy has been burdened with many unnecessary details is becoming daily more apparent, and this fact is fully appreciated by the author. Some of these are illustrated in the following quotations, and are now very generally regarded by laparotomists as unessential. Relating to the oft-emphasized precaution to catheterize the patient just before operating. Mr. Smith says:

"I think the advantages of catheterism before operation are somewhat exaggerated. I think it is unnecessary, and I never have it done. The patient may pass water before operation; if there is some abnormal condition in the bladder which prevents her being able to empty it, I would rather find this out after operation than before. We can see and feel, and accurately locate an enlarged bladder if it is distended; lying flat and empty over a growth we may unwittingly injure it."

Again, in describing the dressing of the wound:

"It matters very little what the dressing is if un-irritating and absorbent. A pad of iodoform wool, or salicylic sild, or carbolized gauze will serve the purpose admirably."

Touching the environment of the patient, Mr. Smith effectively controverts the claim that specially designated hospitals are nec-

essary for the best results in the present state of surgical practice. He says :

"At the present time, it is perhaps nearly as true of abdominal as of other operations, that extra care in avoiding all matters conducive to septicæmia, with surroundings such as most surgeons can command, justify their being carried out either in general hospitals or in private dwellings."

Mr. Smith's own work is a demonstration of the correctness of this statement. At the Bristol Royal Infirmary, a building one hundred years old, his abdominal operations are done in the general operating theatre.

"No restrictions whatever are placed on visitors. The room may be half full of students straight from the dissecting room, or even post-mortem; my assistant is the House-Surgeon who will have dressed a good many wounds before coming to me; and by curious arrangement the anæsthetic is also the Pathologist. Thus I operate with full Listerian precautions. Operating under these circumstances I have had some fifty (50) ovariectomies with one death, and that from intestinal obstruction."

But even stronger evidence than this has been furnished in America to show conclusively that special hospitals are not essential for the best results in abdominal surgery. In the *Pittsburg Medical Review* for October, 1887, will be found a report of seventy (70) consecutive abdominal sections done in the service of the Philadelphia Free Dispensary. The report is made by Dr. Joseph Price, the physician in charge of the Obstetrical and Gynecological Department of the Dispensary. Of these seventy (70) operations, forty-eight (48) were done by Dr. Price, and the remaining twenty-two (22) by his seven (7) assistants; with a few exceptions, the patients were operated on at their homes; they were dispensary cases, in many instances the patients were alcoholic; thirty-seven (37) out of seventy (70) were cases of pyo-salpinx, and five (5) cases of abscess of one or both ovaries. Of these seventy (70) cases of abdominal section only one was fatal, giving a result of seventy (70) consecutive cases operated on in the homes of the

poor more than one surgeon with only one death.

The writer of this review witnessed some of this work, and can bear testimony to the facts recorded. In many instances the operations were done in courts and alleys, in small crowded rooms, in the homes of the lowest classes. Full antiseptic precautions were not observed, but a rigid system of surgical cleanliness in every detail of the operation was enforced. These statistics, while bearing emphatic testimony to Dr. Price's skill, effectually dispose of the assertions so often made (less of late, however than a few years ago), that private hospitals only are suitable places for abdominal surgery.

The author, while appreciating the power of the healthy peritoneum to absorb and remove sero-sanguinous fluid in considerable quantities after operations, is a firm advocate of the drainage tube.

"If we have any apprehension that the amount exuded will be considerable, we ought to drain; in any case of doubt we ought to drain."

He uses Keith's glass tubes, and aids their action with the exhausting syringe devised by Tait. This is especially serviceable in removing thick fluids, becoming colloid or even clotting.

For sutures he prefers silk. Condemning the routine use of opium after abdominal section, he regards a salmi purge the most effective of all agents in the treatment of peritonitis, local or general.

"A Seidlitz powder or a dose of Epsom salts will sometimes act like a charm in these cases, putting altogether a new complexion on the case."

One of the most instructive sections of this work is that on Operations for peritonitis; Perforative, Traumatic and Suppurative. The limits of this review exclude anything like a full and detailed notice of this chapter. It should be read by every one engaged in surgical practice. We will make one quotation from the section on Suppurative Peritonitis:

"The existence of purulent peritonitis, however induced, is a clear indication for abdominal section. It is in fact, nothing more nor less than the evacuation of an abscess; and as such it has had the imprimatur of practical surgeons ever since surgery has shuffled off the coil of peritonical terror. However induced and whenever diagnosed, suppurative peritonitis had but once treatment—abdominal section."

If this rule of treatment were universally adopted among patients with purulent peritonitis, local or general, now treated by opium internally and turpentine stripes externally, with death in waiting, could be promptly rescued and restored to health by abdominal section, evacuation, cleansing and drainages. Referring to Encysted Serous Effusion from peritonitis, we find this positive statement, the truth of which all who have met with this condition will appreciate:

"It is impossible to diagnose them with precision."

Again he says:

"In many cases encysted dropsy of the peritoneum cannot be diagnosed from ovarian cyst."

The prompt improvement and often apparently permanent cure which follows laparotomy for encysted dropsy, even when of tubular origin, is now established by the record of many cases.

The section on Removal of the Uterine Appendages, occupying thirty-six pages, it is only just to say that nowhere else is the subject so judiciously and practically treated. The indications for these operations are considered in pathological connection as relating to these different headings:

(1) The Appendages; (2) the Uterine; (3) the Nervous System. The purposes of the operation are thus stated:

(1) To remove organs incurably diseased; (2) to check or modify the discharge of blood from the uterus; and (3) to completely abrogate the process of ovulation. The latter he regards, when considered in its relation to nervous diseases, and as epilepsy, mania, etc., the least definite and least satisfactory purpose of the operation. The au-

thor is not an advocate of this operation in cases of functional diseases of the nervous system and obscure reflex neuroses. Ablation of the ovaries and tubes is only applicable to conditions of disease involving these organs or the uterus. Oftentimes to arrest hemorrhage from the uterus the entire function of ovulation must be arrested. The reflex neuroses dependent upon inflammatory and degenerative changes in the appendages are so ill-defined that much discussion and criticism have arisen concerning the Battey-Tait operation. In this connection the author says:

"Here we have to deal with sentiment as well as with science. The question is dragged hither and thither between the practical enthusiasm and the operative surgeon and the destructive criticism of the arm-chair theorist. * * The evils produced by some men doing too much, will never be counter-balanced by other men doing too little."

Again, he says:

"The disease, the extent of it and the symptoms which it produces, is the final criterion as to operative interference. It serves no good scientific purpose to describe a symptom as a cause of operation; it is unfortunate that so many operations are recorded as being ovaralgia, dysmenorrhœa and such like. * * * It is just as scientific to speak of excision of the hip for reflex pain in the knee, as of excision of the appendages for reflex pain in the back. Whenever it is possible the disease ought to be quoted as the cause for operation, and not the symptoms of it."

These remarks are very timely, and those with experience in pelvic surgery, though limited it may be, will appreciate their propriety. Much of the criticism made with so much injustice relative to operations upon the appendages would have been avoided if surgeons had reported these operations properly—thus, instead of reporting the operations for ovaralgia, dysmenorrhœa, and menorrhagia, it should be for ovaritis, pyosalpinx and uterine myoma, giving the pathological state instead of the symptoms dependent thereon. Mr. Smith has treated this entire subject with marked ability. The pathological changes, the symptoms, and the operative work are treated in clear and

practical lines. His extended clinical observation and thoroughly practical methods, together with his familiarity with the literature of the subject, have enabled him to deal effectively with one of the most difficult questions of modern surgery. The fourth section is devoted to operations upon the Non-Gravid Uterus, which consists for the most part in Hysterectomy for Cancer and for Myoma. The author thus defines his position upon the mooted point, whether or not the removal of a cancerous uterus is justifiable, a question which received much attention in the Gynecological section of the recent Medical Congress at Washington:

"I have no hesitation in expressing my belief that, in carefully selected cases, the operation is both justifiable and proper. The immediate mortality does not forbid it. Recurrence is almost certainly not more rapid than in other operations for cancer, and permanent recovery is just as likely to be secured. And, finally, there seems to be an almost unanimous opinion that death after recurrence is not attended with so much suffering; that perforations of rectum are not so liable to take place after the uterus is removed; and that existence is prolonged."

In Section V. the entire field of operations on the Gravid-Uterus and for Ectopic Gestation is traversed. This chapter covers sixty-five pages, and is one of the very best of the entire work. Full consideration is given the Cæsarean Section. Porro's Operation, Laparo-elytiotomy, and the surgical treatment of Rupture of the Uterus, Extra-Uterine Pregnancy, and Pregnancy in one horn of a Uterus Bicornis.

On page 241, in describing the very important detail of closing the uterine wound in Cæsarean section, the author attributes to "Polin of Kentucky" the credit of introducing the silver suture into use in 1852. The writer of this review being a resident of Kentucky, and somewhat familiar with the annals of his native State, has never heard or seen this name heretofore. I believe it has been claimed that some surgeons in America and France discovered the valuable properties of silver as a suture before J. Marion Sim's demonstrated its utility and

introduced silver sutures into surgical practice. However this may be, the surgical world justly accredits the genius of Sims with this discovery, which contributes so essentially to the plastic surgery of the female quito-uniary organs. "Polin of Kentucky" must be an error.

By an easy selection we have thus far considered only those departments of the work before us which treat of the surgery of the female pelvis organs, and the principles of abdominal surgery as applied to. Thus we have penetrated to the middle of the book. The remaining six sections are devoted to the surgery of the digestive tract of the Liver, Spleen, Kidneys, and Pancreas, and some unclassified operations upon Oriental, Mesenteric, Peritoneal, and Parietal Growths. A critical examination of these sections would carry this review beyond its proper limits. The bibliographical table appended to the text is the most complete ever compiled upon these subjects.

The merits of this work are so positive and its defects so unimportant, that the writer has had the pleasing duty of commending it in all of its essential parts. Faults it has, but they relate, for the most part, to the arrangement and classification of the subject-matter.

In the next edition Mr. Smith should arrange the work in chapters and elaborate somewhat certain important parts of the subjects treated. The number of illustrations, too, should be increased. It is to be hoped that no change, however, will be permitted to alter the thoroughly practical character of the work, or confuse the clearness and directness of its language. To have accomplished such a book as this, is legitimate ground for pride and congratulation. There is no branch of surgery in which the results of recent discovery and clinical observation are so much needed by the mass of the profession and no other treatise in any language where such practical exposition of these subjects can be found.

L. S. McMURTRY.

PHILADELPHIA
MEDICAL TIMES.

A Semi-Monthly Journal of
Medical and Surgical
Science.

FRANK WOODBURY
M. D., and WILLIAM F.
WAUGH, A. M., M. D.

Editors and Publishers.

GEORGE H. ROHE, M. D.

Associate Editor.

Subscription, \$2.00 a year
in advance. Single num-
bers, 10 cents.

This journal, for a long time published by the J.B. Lippincott Company, and edited by Dr. Frank Woodbury, whose immediate predecessor was Horatio C. Wood, has been purchased by Drs. Woodbury and Waugh, both experienced writers and

teachers. The *Times*, always a live and enterprising journal, enters now upon a new career of usefulness. Its pages are filled with the freshest and best original matter. It is the organ of the workingmen of the profession; and its large circulation will, no doubt, be greatly extended under the new management. We hope every reader of PROGRESS will subscribe for it.

MEDICAL
WORLD
VISITING LIST.

Being a daily record of
practice and accounts, with-
out the use of Signs, and
hence need no transferring.
Arranged in removable tab-
lets The Medical World,
1520 Chestnut Street, Phila-
delphia. \$1.50.

This it a handsome red Russia pocket-book three and three-quarters by six inches. It has 12 small blank tablets of 47 pages of 31 lines each. Ruled for two patients to each page. The name of

the patient at the top and a line for the character of service, and amount for each day in the month. When one tablet is full another is to be slipped in, whether the month is out or not. Twelve tablets like that described go with each book. There are no posological or other tables, no list of poisons, in fact nothing but the blank pages ruled for keeping daily items of account.

Dr. Taylor, the author, is too modest to put his name on the title page. His visiting list, however, has many good features, and, it is to be hoped may become universally popular.

PHYSICIANS
VISITING LIST

FOR 1888.

BY

LINDSAY AND

BLAKISTON.

Thirty seventh year of its
publication. Philadelphia:
P. Blakiston, Son & Co.,
1012 Walnut street. 50 pa-
tients per week. Price,
\$1.25.

This is, perhaps, familiar to, nearly every physician in the United States, because of its adaptability as a daily pocket-record, or diary; and, because it has been revised annually to suit the increasing demand for new matter.

To the contents a chapter has been added to aid in the diagnosis and treatment of diseases of the eye, compiled from the little compend of Fox and Gould. Dr. Doland has compiled a new set of notes from Tyson, on the examination of the Urine.

There are many excellent points about this work, which, having made it popular for so long a time, it would be difficult to dispense with. The obstetric, and vaccination engagements, with records of births and deaths, besides the special department for recording cash receipts, etc. are all features of interest to the busy doctor. It may be safely said, no successful competitor has yet appeared in the list of convenient and cheap pocket-record books for physicians.

NEW ENGLAND
MEDICAL
MONTHLY.

For years the *New England Medical Monthly* has been one of the brightest and best

magazines in the country. It has recently been wedded to a bride of rare talents and great loveliness. The effect of this happy union has begun to show in both the editorial and contributed matter.

Danbury, Connecticut, is its new home, and the doughty Wile still sits upon its tripod. It is offered for \$2 a year, and has been taken by 60,000 subscribers, according to the statement of the postmaster where it is mailed.

The wax model alluded to in PROGRESS evidently means what we said of it.

CORRESPONDENCE AND SOCIETIES.

LONDON

LETTER.

By our regular Correspondent,

ALFRED S. GUBB.

L. R. C. P.; M. R. C. S.
LONDON.

The curious case of Mr. H. A. Allbutt has been finally disposed of before the General Medical Council. The charge was, publishing at such a low price as to make accessible to

the laity, a small book called, *THE WIFE'S HAND-BOOK*; and that the tendency of this publication was demoralizing, and, therefore, *infamous* in a professional sense, according to the terms of the 29th section of the Medical Act. After hearing all the testimony, and the arguments of counsel the Registrar was ordered to strike the name of H. A. Allbutt from the Register.

A new and sensational change in the career of the present lecturer on Physiology, and Normal and Morbid History, at Westminster Hospital is about to take place.

Dr. Heneage Gibbes has been appointed professor of Pathology in the University of Michigan, and will go soon from London to his far off western home. Howsoever well he may find himself situated in Michigan, one unpleasant feature remains, Dr. Gibbes has so endeared himself to the profession of Great Britain as to create a feeling of deep and universal regret at his departure from where pathologists having, as Dr. Gibbes has, a thoroughly practical knowledge of histology, are rare. His services on the English cholera commission to India in 1884 brought his great merits prominently before the public.

In a recent book published at Paris some curious facts appear. In the times of the Revolution but few medical men were known in the political councils. When Saint Just ordered that not only traitors but indifferent men must be punished, Mignet wrote, "mediocrity which labours steadily is more potent than genius which works spasmodically."

One medical member, of the seventeen who sat in the Constituent Assembly of 1791 and 1792, made for himself a name that shall not soon perish. He was Joseph Ignatius Guillotin, the inventor of that terrible instrument of death by which some writers have said he perished, and others, that it was the carpenter who set it up. Says Dr. Sancerotte, "Guillotin kept his head out of his own apparatus and died quietly in 1814, after an honourable career as a practitioner." A highwayman was the first to feel the separation of his head from the body by the Guillotine. In the Tribunal of the Revolution sat three medical men, one the great Lithotomist Saubereille, who so spitefully opposed the great Civiale. Dr. Coffinhal was president, and refused a reprieve to Lavoisier, on the ground that the Republic wanted no chemists. Le Hardy and Vergniaud rode in the fatal wagon together, while Pinel and Halle were greatly in danger of the mad vengeance of Dr. Marat, because they wished to stay the execution of many good and useful men.

Robespierre himself was less savage in his disposition than all of his medical counsellors. This curious work is full of interest to the medical profession, and I may find time to refer to it again if you readers would like to know more of it, although it may find its way into English at the hands of some one of your erudite and clever countrymen.

The societies here are not occupied with much beside questions of ethics.

MINNESOTA

ACADEMY OF
MEDICINE.

The profession of Saint Paul and Minneapolis have formed an association called the "Minnesota Academy of Medicine." It embraces twenty of the best men in the two cities named, and gives promise of much good work.

Dr. John F. Fulton, the distinguished ophthalmic surgeon of Saint Paul, is President.

PROGRESS

A MEDICAL MAGAZINE. ISSUED MONTHLY

DUDLEY S. REYNOLDS, A. M., M. D., EDITOR.

D. W. RAYMOND, BUSINESS MANAGER.

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GOOD CHEER!

A philosopher, philanthropist and author

by the name of William Kitchener thought to comfort the stomach might tend best to secure that refreshing sleep, which is said "to knit up the raveled sleeve of care." To this end he proposed the following night cap, or go-to-bed-Tom-poset:

R.

- A pint of table beer;
- A tablespoonful of brandy;
- A teaspoonful of brown sugar or clarified syrup;
- A little grated nutmeg or ginger;
- A roll, very thin cut, of lemon peel.

M.

Sig.: To be taken at bedtime.

Lord Ruthven seems to have been acquainted with this compound, and is accredited with having said of it, "This is a right gossip's cup, which far exceeds all the ale that ever Mother Bunch made in her lifetime."

Dr. Kitchener, who had been arrested on a writ taken out by the Society for the Prevention of Cruelty to Animals, because he had been caught in the act of tickling oysters to death by swallowing them alive, felt, no doubt, the need of some such compound to aid him in securing a night's rest after his wonderful gastronomical exploits. Dr. Gas taldy, of the *Almanach des Gourmands*, went down to his grave before he had fairly introduced a popular substitute for Dr. Kit-

chener's "*tewhadiddle*." Father Tom, who it is said succeeded in obtaining the Pope's opinion of a bottle of "the crayther," is credited by the Cork Distilleries Company with the following formula for a punch: A little whisky in a glass, a teaspoon and some sugar, a bit of lemon peel, some more whisky, and every drop of water added after that spoils the punch.

Dr. McConochie, who came from New England to Kentucky in 1824, conspired with Jim Smiley, of Bardstown, a famous character of that day, to concoct a Kentucky punch for Christmas-tide. The formula was:

R

- Nelson County whisky, half a glass;
- A cubic inch of loaf sugar;
- A small bit of nutmeg, grated;
- One piece of dried apple, charred;
- And enough boiling hot water to fill the glass.

This compound enabled Dr. Mac to write the famous obituary of his friend Smiley, and fully accounts for the inspiration of Jonathan Jollybuck in his account of the Jackson dinner at Murfreesboro.

In a spirit of benevolence and charity, animated by a laudable desire to improve upon past methods, determined not to encourage individual tippling, the editor of PROGRESS humbly offers the following as a suitable formula for a punch, which shall, to whomsoever may deign to taste it, at once and forever shut out from consideration the classical egg-nog:

R

- Cold water, half a gallon;
- The juice of four lemons;
- Add one lemon, sliced thin;
- A pound of granulated sugar.
- Stir until the sugar is dissolved.
- Then add one gallon of Zinfandell claret;
- After stirring, add half a gallon of McKenna whisky;
- Stir for awhile,
- Then add one pine-apple, cut into fine bits,
- And a pint of hot water in which two drachms of ground mace have been steeping for half an hour;
- Stir again and add sufficient sugar to suit the taste.

The whole to be made in a large punch bowl. This mixture will keep well, and may serve a small family for the entire Christmas holidays. It is a suitable draught in which to pledge renewed friendships during a New Year's call. It may be given to a person convalescing from a fever or other prostrating disease. It is fit to be taken on quitting the table at dinner parties. It smoothes the shriveled brow of age. It will inspire warm friendships, and create neither headaches nor gastric irritation. Provided, however, that no more than two fluid ounces be taken at a time. In obedience to urgent appeals on behalf of a number, who have tried it at dinner parties, the editor of PROGRESS gives with the formula his working bulletin, and to whomsoever may read this, his cordial good wishes for a merry Christmas and a very happy New Year.

THE RELATION OF PHYSICIANS TO THEIR MEDICAL SUPPLIES.

The medical press has been occupied almost the whole year through with the consideration of a question which is of vital interest. The editor

of PROGRESS noted with much pleasure the disposition of *Ephemeris* to present this matter in a new light, the more so because Squibb's chloroform and Squibb's ether, and Squibb's Hoffmann's anodyne *et id genus omne*, have for more than a quarter of a century relieved the entire profession of this country from any sort of anxiety about these important articles of their medical supplies. These ready made and beautifully labeled preparations have, in fact, long ranked side by side with the Gelatine coated pills and granules of Schaeffeline, McKesson and Robbins, Parke, Davis & Co., and even the new synthetical products of Merck, of Darmstadt.

The practitioner is now able to obtain his alkaloids in a state of division into suitable

doses for nearly the same cost as the raw material. All the officinal preparations of pills, extracts, abstracts, etc., are now made by the manufacturing pharmacist, and the practitioner need no longer place his patient's life and his own reputation into the hands of the village drug clerk, whose hand-made preparations could never compare with the more accurately graded pill machine.

If Dr. Squibb stops for one moment to think what a real boomerang he has hurled at his brethren of the manufacturing Pharmaceutical Guild, he will see how apt our comparison of his own with the preparations against which he inveighs.

Having used Dr. Squibb's chloroform and ether for a score of years, the editor of PROGRESS feels at liberty to use the beautifully colored and coated pills, or palatable solutions and mixtures of Parke, Davis & Co., Lambert's Listerine, Reed & Carnrick's Beef Peptonoids, Trommer's Malt, Warner's Parvules, and Effervescing Salts, or Newman's California Fig Syrup, without feeling that either the ethics of the medical profession, or the sensitive nature of Dr. Squibb's commercial methods have in any way suffered thereby.

DR. McMURTRY'S
REVIEW.

The critical review of Greig Smith's work on abdominal surgery

which appears elsewhere in this issue of PROGRESS, is from the pen of a man especially gifted in the same field. Dr. McMurtry has made a brilliant career in abdominal surgery, and with his unerring judgment, innate skill, and educational acquirements, is rapidly climbing to the region which none but the truly great ever inhabit. Dr. McMurtry was the favored and favorite pupil of that prodigy in medicine, John D. Jackson. He has the good fortune to dwell amid those surroundings and influences, which inspired the genius of McDowell, and it is but natural, he should achieve success in laparotomy.

PROGRESS

A Monthly Magazine for Students and Practitioners of Medicine.

"I HOLD EVERY MAN A DEBTOR TO HIS PROFESSION; FROM THE WHICH AS MEN OF COURSE DO SEEK TO RECEIVE COUN- TENANCE AND PROFIT, SO OUGHT THEY OF DUTY TO ENDEAVOUR THEMSELVES, BY WAY OF AMENDS, TO BE A HELP AND ORNAMENT THEREUNTO. THIS IS PERFORMED, IN SOME DEGREE, BY THE HONEST AND LIBERAL PRACTICE OF A PROFES- SION; WHEN MEN SHALL CARRY A RESPECT NOT TO DESCEND INTO ANY COURSE THAT IS CORRUPT AND UNWORTHY THEREOF, AND PRESERVE THEMSELVES FREE FROM THE ABUSES WHEREWITH THE SAME PROFESSION IS NOTED TO BE INFECTED; BUT MUCH MORE IS THIS PERFORMED, IF A MAN BE ABLE TO VISIT AND STRENGTHEN THE ROOTS AND FOUNDATION OF THE SCIENCE ITSELF; THEREBY NOT ONLY GRACING IT IN REPUTATION AND DIGNITY, BUT ALSO AMPLIFYING IT IN PROFESSION AND SUBSTANCE."—BACON.

VOL. II.

LOUISVILLE, KY., JANUARY, 1888.

No. 7.

GENERAL MEDICINE.

ELIXIR

PARALDEHYDE.

The Coming Remedy, as a
Substitute for Opiates and
Anodynes.

BY

A. B. COOK,

A. M., M. D.

*Formerly Professor of the
Surgical Diseases of the
Genito-Urinary Or-
gans and Rectum,
University of
Louisville.*

*Late Professor of the Sci-
ence and Art of Surgery
and Clinical Surgery,
Kentucky School of
Medicine, and
Louisville Med-
ical College,
etc., etc.*

LOUISVILLE, KY.

Read to the Louisville
Medical Society, De-
cember 22, 1887.

new remedies which might with justice be called proprietary medicines, designed orig- inally for the regular profession; but which, through flaming advertisements, circulars, and physicians' certificates are to be found in the homes of the people, who know little of their import, effect or application to the relief and cure of disease.

Paraldehyde, as a therapeutic agent, was first brought to the notice of the profession in 1883, Chemical composition $C^6 H^{12} O^3$. It has an etherèal taste and odor, in its pure state,

In this age of poly- pharmacy, noted for the multiplication of new remedies, the ap- plication of old reme- dies, resuscitated from years of quiet repose, in new combinations warranted, by a mul- tiplicity of testimoni- als *voluntarily* contrib- uted from all quarters of the globe, to cure all diseases now pres- ent and to come, it is gratifying that the medical profession has in Elixir Paraldehyde a remedy that will take the place of many old, and set aside many of the so-called

(or diluted with water), it is pungent, disa- greeable to the taste, irritating to the phar- ynx, offensive to the stomach and altogether repugnant to the majority of patients. As an elixir it is not specially unpleasant and from its effects, is a solace to the patient.

Excellent elixirs of paraldehyde are made by the local druggists of this city, represent- ing in strength 10 per cent. and 25 per cent., the former contains 45 minims of pure par- aldehyde to the ounce of elixir, or about $5\frac{1}{2}$ minims to the drachm; the latter 2 drachms of pure paraldehyde to the ounce, or 15 min- ims to the drachm, giving very convenient preparations for administering in definite quantity. When given, diluted with water, the elixir is palatable, non-irritating to the pharynx and stomach and is not followed by any of the disagreeable effects of other ano- dynes and hypnotics.

Above all, it is a safe remedy—no danger of active or passive congestion of the brain, liver, kidneys or lungs, no risk of sudden or premature death from heart paralysis. In the writers personal experience, elixir of par- aldehyde is a heart tonic, diuretic, anti-con- stipative, non-irritant, without nausea, acts promptly and positively in a few minutes, produces a quiet, calm, natural-like sleep—no disturbed dreams, incubus, phantoms, hallucinations, or depressions. The great- est pleasure is to awake in the morning— not feeling that any medicine had been taken to produce sleep—with a clear head, a relish for a good breakfast and a stomach ready for vigorous digestion.

Elixir paraldehyde is not alone a pure and simple hypnotic, applicable only to the cerebral excitement of the insane and mild cases of restlessness from trivial causes. The remedy has a wide range of usefulness in its application to the relief of valetudinarians, that cannot perhaps be claimed for any other medicine at present known to the vocabulary of our materia medica, the relief being obtained without unpleasant or detrimental sequels.

In a case of cardiac asthma, with valvular disease of the tricuspid, the sequel to acute rheumatism 15 years ago, three ounces of the 25 per cent elixir were taken within twenty hours with more relief to the distressing dyspnoea than all other remedies. In another test case of asthma of several years standing, the patient had taken every asthmatic remedy alone and in combination, including inhalations, proprietary and quack compounds—\$25.00 worth of a secret preparation, largely advertised, made in Cincinnati—without relief. About two months ago I ordered for this patient 25 per cent. elixir paraldehyde in half tablespoonful doses to be increased to one tablespoonful if necessary; the half dose, repeated once or twice during the night was sufficient during the mild weather; when the damp, chilly weather set in, he took a tablespoonful and repeated the dose during the night when called for, it has given him more relief than any remedy he has ever taken. Since he commenced its use he has not lost a day from business; heretofore with an atmosphere similar to that we have had the past month, he was confined to the house from one to two weeks at a time. So far there has been no occasion to increase the dose. Other milder cases have realized similar benefits, the attack being cut short and followed by quiet sleep. In October last I was called in consultation to see a case of puerperal eclampsia, about twenty hours after convulsions commenced. The patient was a healthy, stout, fleshy woman of medium stature, age 28 years, in the seventh month of pregnancy

with second child—first child full term and normal labor. I saw her in the second attack of convulsions which occurred at an interval of 48 hours after the subsidence of the first attack. The family physician had the previous night given two hypodermic injections of morph. sulph. gr. $\frac{1}{4}$, atropia, gr. $\frac{1}{150}$, and an enema every four hours of half drachm each of chloral hydrate and bromide of potassium. During the day she had another hypodermic injection, and 90 grains each of chloral hydrate and bromide of potassium by enema and one pint of blood had been drawn from a large orifice. I saw her at 6 o'clock p. m.; she was then in a convulsion, and was informed they had been very frequent during the day. When the convulsion subsided, no foetal heart-sound could be heard, and none had been heard from the occurrence of the first convulsion four days previous, there was no dilatation of the os uteri, the urine was very scanty, scarcely two ounces being secreted during six hours, reaction acid, specific gravity 1042, albumen fully 75 per cent. At my suggestion all other remedies were abandoned and 25 per cent. elixir paraldehyde was given every four hours in tablespoonful doses and continued until foetus was delivered, then three times a day for two days, then only one dose at night or when very nervous, in all about 20 ounces of the elixir were taken. Five days after I saw her digital dilatation of the os was commenced and the following day she was delivered of a still-born foetus. She made a good recovery. She had no convulsions after the administration of elixir paraldehyde was commenced. Two weeks after delivery the urine was normal in quantity with a mere trace of albumen.

While a single successful case is not sufficient to claim par excellence for a remedy comparatively new and untried, it is fair in this instance to give the credit to the treatment employed. Two attacks had occurred at an interval of two days, the convulsions had, to some extent, been modified but not controlled by the treatment. As long as

the exciting cause—albuminous urine and a dead foetus—remained, the natural inference would be that the convulsions would have recurred, until delivery was effected, had they not been prevented by the remedy used.

In September last I used the elixir in a case of complicated pneumonia with happy results. The patient was feeble and spanaemic after her fifth accouchement, when called to visit her, she had an obstinate case of bilious remittent fever with a temperature ranging from 101° to $105\frac{1}{2}^{\circ}$; in a few days, from exposure to damp night air, she contracted double pneumonia, which in a few days was complicated with acute diarrhoea, the fever being still persistent, on three occasions she was supposed by her friends to be dying. She had persistent cough which did not yield to opiates. I gave her 25 per cent. elixir paraldehyde in two drachm doses with directions to repeat in one hour or any time during the night until quieted; the remedy gave her the first nights' quiet sleep she had had for weeks—never more than two doses were taken during the night—from that time improvement was manifest. She convalesced rapidly from the complication of diseases. I have, for months, used the elixir, to the exclusion of opiates and anodynes, in expectorant mixtures for adults and children, in pneumonia, bronchial and pulmonary catarrh with much satisfaction.

Personally I have used the elixir alone in bronchial catarrh and annoying night cough to which I am subject in sudden changes of atmosphere, or sleeping in a room of lower temperature than accustomed to breathe during the day; no remedy used in thirty-five years has given me similar relief.

I have used the medicine in the opium habit with good results, and in one case of long standing there is reason to believe the habit has been abandoned; the patient used the 25 per cent. elixir in tablespoonful doses, the continued use did not necessitate an increase of the dose.

In nervous cough from irritation of the

respiratory mucous membranes, fauces and vocal apparatus it surpasses all other remedies; diluted with warm water it can be used locally in accessible mucous membranes as a gargle or spray, either alone or in connection with internal use. It is a boon to the patient in the wakefulness during the course of and convalescence from idiopathic and symptomatic fevers, and from its action it ought to give good results in whooping-cough and the eruptive fevers of childhood. Patients afflicted with phthisis pulmonalis express a decided preference for the new hypnotic. It is unnecessary to speak of its value in the treatment of delirium tremens. It has been largely used by the superintendents of some Insane Asylums with decided benefit; but the writer has had no experience in this special class of practice.

I have prescribed the elixir in insomnia, nervousness, restlessness or wakefulness whether hysterical or from indigestion, or cerebral excitement, or brain exhaustion from anxiety, loss of rest or overwork. Patients, who heretofore had used heart sedatives, opiates, alcoholic stimulants, the bromides, bromidia, chloral, chloroform, et cetera, universally give preference to elixir paraldehyde. During the past week I have given the 25 per cent. elixir in two drachm doses to an old lady, dyspeptic and nervous, to allay the muscular pain incident to lying in a fixed position with fracture of the neck of the femur. The morphia she had taken previously caused a disturbed rest, obtunding sensibility without producing sound sleep, followed by distressing nausea and vomiting; after the change was made, nausea ceased and sleep was tranquil. To allay the nervous irritation which causes erotic dreams and seminal emissions, I prefer the elixir to the bromides, chloral and other remedies formerly used.

In my experience the remedy rarely causes excitement, soon after being taken the patient falls into a quiet, calm sleep, which in the majority of cases is not interrupted during the night, if necessary the dose can be repeated *pro re nata*.

It may be accepted as an axiom that a remedy or class of remedies, which may or do act injuriously, present or future, should not be administered provided another is at command which is innocuous.

Opiates, anodynes and hypnotics are given to relieve pain, or induce sleep, or both. Without discussing the various causes and kinds of pain, there is a class of pains acute, severe, harassing and distressing, the result of irritation in the periphery of the nerves, whether distributed to the cutaneous, mucous, serous, muscular or hard tissues of the body.

The suffering, expressed by the patient in words or groans, is not the result of inflamed nerves, and does not demand opiates, chloral, etc., for relief. While heart sedatives, opium, anodynes, chloroform, chloral, etc., have now and will have their special offices to perform in the treatment of disease, it must be acknowledged they have been unnecessary, sometimes recklessly used.

Many patients have become addicted to the habitual use of these drugs for the relief of imaginary ailments, or for the excitement and succeeding lull and insensibility which follow their use—a habit which clings to the user like a demon of destruction, goading its victim to premature death.

Assuming the fact that a large class of pains are the result of nerve irritation from local disease, have we not in elixir paraldehyde a safe substitute for the class of drugs before mentioned? The writer has used the remedy in cases where formerly opiates and anodynes were deemed indispensable, with results satisfactory to the physician and beneficial to the patient. Can it be hoped that others will record a like experience?

It may not be improper, in conclusion, to remark that the physician should see that the elixir is rightly prepared. It cannot be made by adding the pure paraldehyde to a simple elixir, like oil and water it needs a solvent to secure union and permanency.

Its use should be limited to medical purposes and only taken when ordered by the family physician.

SALICYLIC ACID, IN CUTANEOUS DISEASES.

BY

J. CLARK MCGUIRE,
A. M., M. D.,
LOUISVILLE.

Read to the Louisville Medical Society Jan. 5, 1888.

Though salicylic acid did not come into general use till about 1874, it is now more or less extensively employed, in the treatment of skin diseases.

If used in sufficient strength, I do not believe there is a better application for certain

chronic localized skin affections—such as eczema, especially of the palms and soles, small pigmented naevi, callosities, corns, pigmented spots, and in the treatment of psoriasis and lupus: it is superior to preparations of tar, chrysarobin and pyrogall, in that it is odorless, cleanly, does not stain the skin, and is not so apt to produce irritation.

We are warned against it, using in greater strength than 10 or 20 per cent. Kaposi recommends it for the removal of pigmented spots, about 19 per cent. Mr. Calender, of London, says 2 per cent. applied to wounds, may cause severe local irritation, and even constitutional disturbances.

It is my purpose in this paper to report the cure of several cases of skin diseases, in which it was used in the form of 38 per cent. plaster mulle:—but first let me endorse all that has been said in praise of plaster mulle, as first introduced to the profession by Prof. Unna, of Hamburg: It is said they are too expensive for general use, but they are really cheaper than ointments, as there is no waste. Our application will last several days, and they do not deteriorate from age. I have kept them for over a year, and then found them as good as when first procured. When all their advantages are fully understood, they will come more into general use. They are not only cheaper than ointments, but more cleanly, more easily applied, as they will adhere of themselves, without the use of bandages.

In the following cases, the salicylic acid

plaster mulle was applied, from eight to ten hours, followed by oxide zinc plaster, or Lassen's paste.

Case 1.—Miss B. Eczema squamosum of the whole face, a few scaly infiltrated patches about the wrists and hands, the eruption first made its appearance four years ago, in the form of vesicular eczema of the face and neck; with the exception of some improvement at intervals, it had existed ever since she had been under the care of a number of general practitioners and specialists; the eruption had improved somewhat, while under treatment at Hot Springs, Ark., but there she was “taken with a fever,” when the eruption returned as bad as ever. Most of the physicians she had consulted, had employed mild, soothing ointments and lotions, with arsenic internally; had warned the patient against the use of stimulating applications;—a specialist had been most successful in treating the case, by means of tar and zinc plaster.

When I first saw the patient, the skin about the face was very red, excoriated by scratch marks, somewhat infiltrated, and covered with crusts. Altogether she presented such an unsightly appearance she never appeared without being heavily veiled. The itching was so intense while asleep, she would tear off any application that could be applied, had bound up her hands, had even tied them, but all to no purpose. Complained of irregular menstruation, chronic constipation, and was in such a nervous condition, could scarcely keep still a moment. I first prescribed pills of phosphorus, iron and strychnine, which she continued to take throughout the treatment, corrected the constipation, regulated the diet, etc.

Having a number of plaster mulle in my office, applied boric acid to the right cheek, zinc to the left and salicylic acid to several patches on the wrists. The following day, on removing the boric acid, the parts were seen to be highly inflamed, with many vesicles scattered over the patch; the zinc plaster had fallen off, leaving the part less

red and somewhat improved in appearance. She stated the salicylic acid had been rather painful at first, but did not notice it after an hour or so. The lesions were now found of a mahogany color, as glistening as if varnished. Slight desquamation, applied salicylic acid 38 per cent. to all lesions, to remain in place eight hours. Within four days, there resulted a complete desquamation of the epidermis, leaving only a slightly reddened surface. The patient stated there was entire cessation of itching, immediately after applying the plaster.

Applied, at various times, after this, tar, mercury, bismuth or sulphur ointments, but these applications either did no good or caused harm. As less than thirty-eight per cent. salicylic acid plaster mulle could not be obtained in this city, used it in the form of ointments, ten and twenty per cent, but with little or no effect. At last, again resorted to thirty-eight per cent., applied it several times, in the intervals using Lassen's paste. At this writing the skin about the face is still somewhat red, but from the great improvement that has already taken place, I have every reason to hope for a complete cure.

Case 2.—Mr. N. Eczema rubrum, on back of the hands and wrists. While under treatment, for several months, many different applications had been used, without benefit. The skin was much reddened, infiltrated, covered with scratch marks, deep fissures, about the hand, caused severe pain, made several applications of salicylic acid, in the intervals, used zinc ointment; within two weeks patient dismissed cured.

Case 3.—Mrs. C. Eczema back of hand. Had been treated mainly by means of poultices. The hand was much swollen, reddened and very itchy, with many fissures that tended to bleed. Touched them with nitrate of silver, and advised an evaporating lotion. In a few days, swelling had disappeared; then instituted same treatment as in the other cases, with the same favorable termination, in ten days.

Have been successful in treating many other cases of eczema, in various situations. One case particularly is worthy of mention.

Case 4.—Mr. H. Complained of a reddened, infiltrated condition of the palms, that made its appearance as soon as cold weather set in, lasting throughout the winter, to disappear on the advent of warm weather. He had at times used a variety of local applications, without much benefit; complained chiefly of the pain caused by the deep fissures that extended across the palms. On one hand made use of caustic potash solution, twenty grains to the ounce, rubbed firmly on the parts, followed by applications of diachylon ointment; to the other salicylic acid plaster. Within a week, the epidermis had peeled off, leaving a normal surface. It was at least three weeks longer before the part to which the potash solution had been applied completely healed.

Case 5.—Mrs. A. A dark yellow pigmented patch, about an inch broad and three inches long, extended from outer caultues of right eye, over the forehead. She stated that the discoloration had been caused from applying a flannel bandage saturated with equal parts of chloroform and sweet oil, to relieve severe neuralgia. She had fallen asleep, leaving the flannel pressed upon the part. It had existed for six weeks before coming under my observation. Applied the salicylic acid plaster, thirty-eight per cent., for eight hours. Within five days the horney layer of the epidermis had peeled off, leaving a reddened patch: made several other applications of the same plaster, in the intervals using a soothing ointment. Within a month the discoloration had entirely disappeared, leaving a normal skin.

Case 6.—Dr. R. Tyloris of the palms of the hands and palmer surfaces of the fingers, a rounded yellow and slightly elevated patch in the centers of the palms. These patches of callositas, had resisted a great variety of

remedies, that had been applied during the course of three or four years. They seemed to be independent of any exciting cause. Applied the plaster for twelve hours. Within twenty-four hours thick layers of epidermis had peeled off, leaving the skin almost entirely free from trouble. Applied once more, and then advised innuuctions of lano-line to keep the hands soft.

I have used the plaster with good result for the relief of psoriasis, but generally prefer chrysarobin when it can be used. In some cases of seborrhœa it has acted well.

Prof. Uuna has met with most remarkable success in the treatment of lupus by the same means, he combines creosote with the salicylic acid to reduce the amount of pain, “which is really very considerable when the plaster is applied to a raw surface.” I have not found it necessary to resort to creosote, as my patients tell me the pain is not severe, and does not last over an hour or two after the application of the plaster.

It has been my purpose, in this paper, to call attention to the fact that we can frequently employ salicylic acid in greater strength than is usually advised, and to mention a few diseases, in which it is applicable, believing that those who use it will be pleased with the results they obtain.

JOURNALISTIC.

The *Texas Courier-Record* is again in

trouble. A letter from a friend at Dallas, announces the retirement of Drs. Leake and Thruston from the editorial management. This is unfortunate, as our bright contemporary had won a host of new friends and admirers. The profession in Texas has caught the spirit of PROGRESS in organized effort and we sincerely hope, our informant may be mistaken, and that, there will, after all, be no change in the editorial management, nor in the policy of the *Courier-Record*.

GENERAL SURGERY.

FIFTY

LAPAROTOMIES

For Ovarian Tumors, Uterine Appendages, Fibroids, Gall Stones, Excision of Colon, Pelvic Abscesses, etc.

BY

JOSEPH EASTMAN,
M. D.,

Professor of Gynecology in the Central College of Physicians and Surgeons, at Indianapolis.

Read to the Mitchell District Medical Society, at Seymour, Ind., December 15, 1887.

Case 1.—Twenty-five were reported to the Indiana State Medical Society, also published in tabulated form in the Journal of the American Medical Association.

Case 26, age 46.—Montezuma, Ia., pelvic abscess, communicating with rectum. Over one quart of fetid pus removed from broad ligament at time of operation.

Abscess sac stitched to wound. Glass drainage tube. Cure in seven weeks. Dr. A. W. Patterson was present at operation.

Case 27.—Also pelvic abscess. A pint of pus removed at operation. Recovery perfect in five weeks. These two cases are fully reported in *St. Louis Medical Review*, July 11, 1887, page 653. Dr. L. L. Todd present at this operation.

Case 28, May 28, 1887.—Removal of ovaries and tubes for dysmenorrhœa, which had been accompanied by most excruciating cephalalgia. Patient had been in insane asylum for a year. Tubes sharply flexed and firmly held by contracting bands of inflamed peritoneal covering of tube and broad ligament, consequently, tubes were immovable and absolutely impervious. Patient recovered from operation and is improving mentally. (Dr. A. Maxwell present at operation.)

Case 29, June 14.—Salpingitis, tubes as large as one's finger, filled with sero-pus. Ovaries and tubes removed. Patient restored to health. (Drs. Sharer and Smith, of Delphi, Ind., present at operation.)

Case 30, June 29.—Ovarian cyst, twenty pounds, on right side. One size of hen's egg on left side. Both removed. Recovery.

(Dr. Wm. A. Pugh, of Rushville, Ind., present at operation.)

Case 31, July 7.—Ovarian cyst, fifteen pounds, inflamed and suppurating; many adhesions; drainage. Resulted in recovery. (Drs. Kemper, Green and Buyden, of Muncie, Ind., were present at the operation.)

Case 32, July 21.—Six pound ovarian cyst. Recovery. (Dr. Chenoweth, of Windsor, Ind., present at operation.)

Case 33, July 27.—Seven pound fibrocystic tumor of right ovary. Recovery. (Dr. A. W. Patterson present at the operation.)

Case 34, August 10.—Chronic peritonitis following severe colic; abdominal cavity filled with inflammatory products, uniting large and small intestines together into one common mass; complete intestinal obstruction for six days; separated adhesions of bowels; removed large quantities of pus from between coils of bowels; drainage. Recovery complete; patient at work. (Mr. J. F. Barnhill was present at operation.)

Case 35, September 3.—Chronic salpingitis and ovaritis appendages firmly adherent to broad ligament; disease of thirteen years' duration; removed appendages; used drainage. Patient says she "feels better than for a dozen years," and has gained ten pounds in weight. (Dr. C. S. Boynton present at operation.)

Case 36, September 5.—Cystic degeneration with fibroid growths connected with right ovary; removed appendages. Recovery. (Dr. Achison Maxwell present at operation.)

Case 37, September 8.—Large ventral hernia, dissected out hernial sack, brought its margins up into wound under linea alba, stitched latter together. A good cure. (Dr. A. W. Patterson was present at operation.)

Case 38, September 10.—Cystic degeneration of ovaries; removed appendages. Recovery. (Dr. R. W. Long, of Irvington, was present at operation.)

Case 39, September 24, age 42.—Congenital defect of ovaries and tubes; suffered ex-

tremely with dysmenorrhœa for eighteen years; much emaciated; had contracted morphine habit six years ago; was brain-wrecked, reason dethroned, nervesshattered, morphine poisoned, declaring that she preferred to die rather than endure the pain of the next period; was free from pain during the five weeks she was at hospital. Recovered. (Dr. J. M. Mathews, of Carlisle, Ind., present at operation.)

Case 40, September 27.—Mrs. B., under the care of T. C. Donnell, M. D., Franklin, Ind., aged 20, mother of child eight months old, referred to Dr. Eastman, September, 1887; history of low general health for many months; after birth of child obstinate constipation, resulting in almost complete obstruction; relieved only by gr. $\frac{1}{2}$ ext. belladonna; noticed enlargement in left inguinal region.

Examination *per vaginam*: Right ovary enlarged and tender; iliac enlargement seemed to have connection with uterus; over abdomen the tumor could be only indefinitely mapped out.

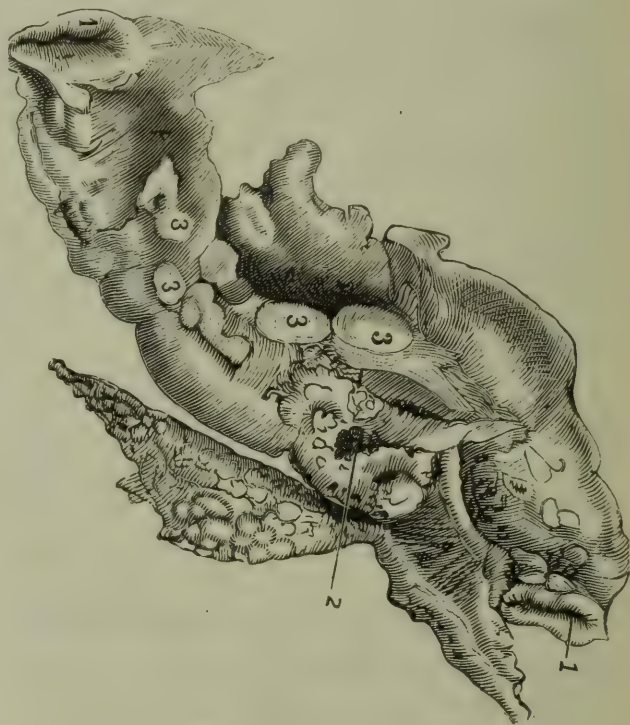
Operation, September 27.—Incision in median line; ovaries examined; right one size of hen's egg, and was removed; pale, and fibroid in appearance; left ovary healthy; enlargement in left iliac fossa elevated from pelvic floor and brought higher into wound, was found to be a pathological condition of descending colon immediately above sigmoid flexure.

Removal of diseased portion determined upon; section of gut made two inches above, and two inches below morbid boundary line; no portion of mesentery removed; portion exsected, eight inches long, with appearance shown in figure, drawn by myself.

Distal ends of the gut approximated by Lembert's sutures. No. 10, iron-dyed silk sutures were used, each suture passing deep, through muscle and submucosa of intestinal wall.

The operator had not then read the very able article of Dr. Halsted, (See *American Journal Medical Sciences*, October, 1887.

"Circular Suture of Intestine," by Wm. S. Halsted, M. D., New York,) but for anatomical knowledge of intestinal coats, knew the value of a suture, including the submucosa, which is the strength of the intestine; sutures taken one-eighth inch apart around the whole intestinal circumference. When the parts seemed well approximated, it occurred to the operator to test the work. Bergeon's apparatus for making sulphuretted hydrogen gas being at hand, he ordered a bag of the gas generated, injecting a quantity *per rectum*. Some escaped at the wound, as could be easily determined by its odor. More sutures were taken, and the gas test reapplied. A small quantity again escaped, and other stitches were taken; gas now failed to escape, proving the edges well approximated.



1-1.—Opening of superior and inferior ends.

2—Perforation by finger into calibre of gut, made by lifting it up, it being in advanced state of degeneration.

2-3-3-3—Secondary growths from main tumor. The wing-like appendages of like character.

Glass drainage tube left in abdominal cavity; little shock followed; highest temperature at any time $99\frac{3}{8}^{\circ}$ F. Bowels acted on fourth day, again on fifth, and afterwards comparatively regular. Drainage tube removed on fifth day. In ten days patient sufficiently recovered to walk about the room,

and in five weeks to return home. So favorable seemed the convalescence, that the diagnosis of carcinoma, which had first been made, was now somewhat doubted by some. Bowels acted perfectly well for eight weeks, when she ceased to do well and Dr. Eastman was asked to visit her. She was vomiting, exhausted, with abdominal cavity filled with ascitic fluid. Drew off the fluid and two days later made incision into abdomen to learn more of condition. The site of exsected bowel was normal. From the pedicle of the ovary removed, sprang a vegetating mass as large as the double fist, which left no doubt as to its being carcinoma. (Microscopic examination by Dr. Rachael Hickey, of Chicago, showed the specimen to be carcinoma, of cylindrical celled variety.)

Patient died four days later; no autopsy. Ante-mortem examination obviated its necessity, since the sutured bowel, mesentery, uterus and ovarian pedicle with its growth, were then examined sufficiently to warrant the statement that patient died from the disease extending, and that recovery from the operation was perfect.

Case 41, October 11, age 42.—Extensive chronic peritonitis, originating from pelvic cellulitis. Abdomen nearly as much distended as at full term of gestation. Five pus cavities between the coils of intestine, containing in all a quart of pus. Two cavities communicated by a common opening with sigmoid flexure of colon, through which pus had been discharged since last March. Separated adhesions in some places eight inches in length. Washed out cavity, peppered freely with iodoform, put glass drainage tube into sinuous opening, well down into colon. Fecal discharge through drainage tube, and after its removal for several weeks, then through lower angle of wound for several weeks. Patient cured, returning home to Worthington, Ind., December 17, 1887. (Dr. L. P. Mullinnix, of Worthington, present at operation.)

Case 42, October 18.—Mrs. W., Chelsea, Ind., sent by Drs. Phillipps, of Chelsea, and

Sipe, of Orange, with this letter of diagnosis: "1. Ovarian, (a) solid T— of ovary rare. (b) Would probably be more movable. 2. Omental tumor; (a) solid T— of omentum are almost invariably malignant. 3. Kidney; size, shape, mobility, correspond to a displaced kidney, which I think it is. It might be cancer of the kidney, but I do not think there is pain enough for that, so it is excluded. Finally, as the diagnosis is not clear, I would advise waiting till fall— watching its growth and other symptoms. Meantime, give general tonics and cheer her up. Reamy."

Examination: Somewhat elongated abdominal tumor a little to right of median line of abdomen. Could be outlined fairly well by palpation. It was not kidney-shaped, nor scarcely movable. Tumor gave impression of much thickness. Kidney of right side definitely outlined in normal position through thin walls. Subjective: Fourteen years ago had "spells of bilious colic;" since then has felt dragging pains in abdomen, causing her to assume a somewhat stooped position. Contraction and pain increasing till the condition seemed to demand surgical relief. Operation October 18. My usual aseptic precautions. Incision exposed abdominal organs as shown in figure.

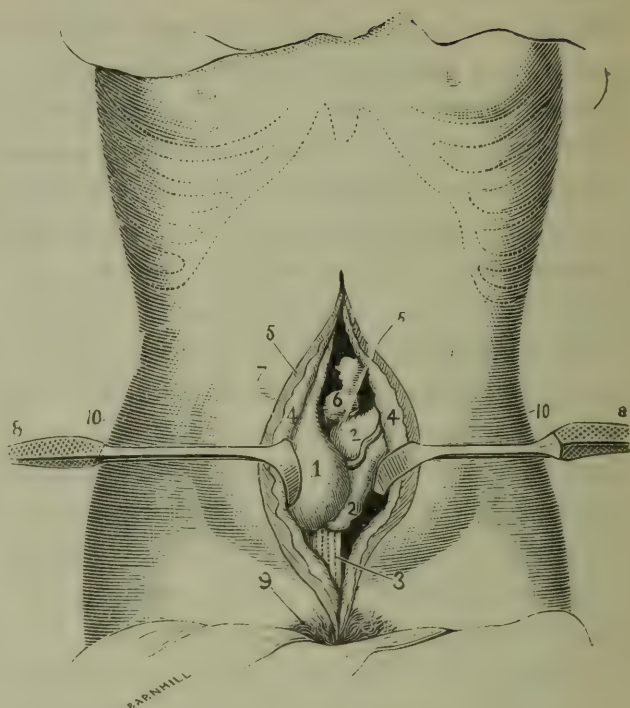
A firm cicatricial band held the right lobe of the liver down in right iliac fossa. This was severed, thus enabling me to raise the inner margin of the liver and find the ascending colon, adherent to inner border and under surface of liver. On separating gut from liver I found, "plastered" between them, three gall stones size of marbles. Felt more through wall of bladder and incised the cyst, removing fifty-one more gall stones. Gall bladder shrunken and dry. I here present them in box; they vary in size from a grain of wheat to tip of thumb. Closed incision into gall bladder with silk, Lembert's sutures, to make the closure perfect, there being no gall in bladder. I did not put in a drainage tube, as the gall had escaped in some way for years through ducts,

or else, had not been poured into the cyst. Having broken up extensive adhesions on surface of liver and bowels, I put a glass drainage tube into abdominal wound and closed the same around it. Nothing of note followed, except, that the patient has made a good recovery, and is, at this date, December 15th, seemingly cured. The liver can now be felt to the right and slightly above the umbelicus, its lower margin, at least six inches higher than before the operation.

Comment—From what information we have, this was a case of formation of gall stones fourteen years ago, with enlargement and rupture of gall bladder, causing local peritonitis, with resulting adhesions between liver and ascending colon. The alternate distention and relaxation of this bowel may have increased the extent of the adhesions downward, drawing the right lobe of the liver downward and inward, until the inflammatory process firmly anchored the liver to the pelvis, by the formation of the dense band of tissue represented in the figure by 3.

In the transactions of our State Society, 1879, Dr. Kemper, of Muncie, reports a case in some respects similar, except in the important particular that Dame Nature formed a billiary fistula, which cured the patient. In this same valuable contribution to the literature of the subject, Dr. Kemper collects a number of cases.

*Case 48.—Mrs. H., aged 59, living in Delaware County, Ind., near De Soto, consulted Dr. Bunch, the family physician, who, not being positive of his diagnosis, called Dr. Kemper, of Muncie, who diagnosed a distended gall bladder, and was positive it contained gall stones. November 10, at patient's home, assisted by Drs. Kemper, Bunch, Wymans and Boyden, I opened the abdomen in the median line, making an incision some five inches in length, lifted the gall bladder up into the wound and incised it.



- 1—Right lobe of liver.
- 2-2—Bowel adherent to liver.
- 3—Cicatricial band dragging liver downward.
- 4-4—Peritoneum everted by retractors.
- 5-5—Thickness of abdominal paries.
- 6—Bowel, also adherent to liver.
- 7—Umbelicus.
- 8-8—Retractors.
- 9—Mons veneris.
- 10-10—Sup. crest ilium.

A half-pint of inspissated gall and mucus passed out. Introducing my finger I could feel two gall stones size of marbles; removing these I detected still another lodged in the duct, which was with some difficulty squeezed up into the bladder by pinching the duct below the stone. It was removed, the bladder stitched to peritoneal layer to abdominal wound, and the abdominal incision closed around a small rubber drainage tube, which was left in the gall bladder for drainage. There was a free discharge of bloody mucus through this tube for five days or more. When this had become less the tube was removed. Patient recovered.

Case 43, October 25.—Twenty-five pound ovarian cyst. Adhesions deep in pelvis. Six ligatures required to stop hemorrhage where adhesions were broken up. Patient cured. (Dr. A. W. Patterson was present at operation.)

*I skip from 42 to 48 for the purpose of having the gall stone cases together.

Case 44, October 27.—*Seventy-five pound* ovarian cyst. Adhesions to entire anterior surface of tumor to abdomen. Other ovary diseased and removed. Recovery. Operation at patient's home in Martinsville, Ind. (Drs. Farr and Kennedy present.)

Case 45, October 30, Age 30.—Patient lived twenty miles from city. Large pyosalpinx; pelvic peritonitis involving ascending colon, bladder, uterus and numerous knuckles of intestine. Organs named were massed together as one, producing complete obstruction of bowels. Operation one of emergency. Separated enough adhesions to relieve obstruction, and bowels afterwards acting freely. Death from shock in twenty-four hours. Disease of six months' duration. An earlier operation would doubtless have saved life, as patient was much reduced by long continued vomiting. (Dr. H. S. Herr, of Westfield, present at operation.)

Case 46, November 5.—Removed uterine appendages on left side. No ovary on right side. "Unicorn Uterus." Recovered. (Dr. W. J. Newton, of Hope, Ind., present at operation.)

Case 47.—Twenty-eight pound ovarian cyst. Recovered. (Dr. S. H. Moore present at operation.)

Case 48.—Gall stones. (Elsewhere.)

Case 49, November 29.—Removed uterine appendages for chronic salpingitis, which had produced amenorrhea, pyosalpinx, pelvic adhesions from operation. Patient recovered. (Dr. A. Maxwell present at operation.)

Case 50, December 10.—Peritonitis, extensive "cob-web" adhesions of nearly all pelvic organs, distending abdomen as much as a fifteen-pound ovarian cyst. Separated adhesions, letting out as much as three pints of pus from the different cavities formed by adherent bowels. Recovery. (Dr. A. W. Patterson present at operation.)

These fifty cases include all my abdominal sections for various diseases, covering a period of four years. The list will show from July 18, 1885, to October 27, 1887, *thirty*

four consecutive laparotomies without a death, or, from July 18, 1885, to December 10, 1887, *forty* consecutive operations with *one* death.*

My total mortality in the fifty cases being six, my per cent of recovery is 88. Having several times—when discussing when, where, and by whom laparotomy should be performed—urged the advantages of early operating, and denounced the teaching of the text books advising delay for ripening of these tumors as a "foul blot on the surgical map of the civilized world," and this same gospel having been sounded from many sources, I am now convinced that all text books written five years hence will advise the removal of ovarian tumors as soon as detected. They will also advocate exploratory laparotomy in all cases of doubtful diagnosis. Let him, who makes exploratory incision into the abdomen, however, be armed and equipped to do any operation known to the surgery of the abdomen; provide proper surroundings and after-treatment for the case, or let it alone, and send for some one who can.

I still cling to my notion, that unless we can take a laparotomy patient to a private hospital, we should take the hospital to the patient; at least, a disciplined nurse, *much experienced in laparotomy cases*. We must have a sentinel standing guard over such patients, who is working to our interests, who knows fully the meaning of the maxim, "True banking knows no friends," and whose imperative duty it shall be to steer the patient clear, not only of surgical shock and sepsis, but also that more pernicious shock and sepsis, emanating from the gossip and officiousness of well-meaning, but misguided and ignorant friends. To carry out the most perfect antisepsis our attendants must have experience with drainage tubes, etc. In my work I use drainage on the slightest indication. Instead of its conducing to hernia, I

*Twenty-five of these operations have been made since May 3, 1887. These are not merely cases of removal of uterine appendages, but laparotomies for whatsoever came for relief.

think it has an opposite effect. If only left in a few hours it does good by letting out imprisoned air, so much dreaded by Prof. Sayre when puncturing knee joints. I fully concur with that wise, good and great benefactor of woman, Dr. Thomas Keith, who said: "The great secret of success in abdominal surgery, in all surgery, is the antiseptic principle." The Keiths, Martins, Bantocks and others, are recording their scores of consecutive laparotomies without a death. Operators are accused of "selecting" their cases. This criticism is ridiculously absurd. Every operator knows that the case selected as easy may turn out to be the very worst, and *vice versa*. I could not get consent of friends to remove an enormously large cyst from a lady at Charleston, Ill. One year later Dr. Montgomery, of that city, when the patient was in a dying condition, drew off 135 pounds of fluid, and at the post-mortem discovered that the cyst could have been easily removed.

This fall I selected a case supposed to be easy, to show my class. On operating, it proved to be adherent to everything in the pelvis.

Mr. Tait's report of 146 cases of section without a death (many of these were removal of uterine appendages, not the seat of tumor), was discredited. Not, however, so far as I know, by *any successful operator*. Sutton, Price, Goodell, Homans, Wylie and others, are piling up statistics in this country, calculated to dispel doubt. Wylie having recently reported sixty-one cases for removal of uterine appendages without a death. When the maxim, "*Fewer operations by the many, many operations by the few*," shall be acted on, American cities will have as good records as Edinburgh or Birmingham. I still hold to the idea that the great masters in music and art were born, not made, and that the "surgical type of a man" is to be found less than thirteen times to the dozen.

DISCUSSION.

Dr. W. H. Wathen,

of Louisville, said:

I will not discuss Dr. Eastman's interest-

ing report in detail, but will confine my remarks to three points, viz: Hospitals for abdominal section, antiseptics, and the treatment of the pedicle in Supra vaginal hysterectomy. His claim that laparotomy should not be performed, except in special hospitals is susceptible of modification, for some of the best recorded results have been obtained in private houses, crowded hotels and lodgings. Of Dr. Thomas Keith's 64 hysterectomies for fibromata, 26 were in private practice, with but one death (acute mania), a mortality of 3.8 per cent., and 38 were in hospital practice, with 6 deaths, a mortality of 15.7 per cent. The same relative ratio of mortality obtains in ovariectomy in his private and hospital practice, for while he has had but one death in private practice in the last three years, his mortality has risen from under 2½ per cent. to 65 per cent., the result of the great number of deaths in the hospital operations.

The patient in private practice died of diabetic coma following a simple ovariectomy. His hysterectomy and ovariectomy patients in private practice were in a less satisfactory and more anxious state than the hospital cases, the tumors being larger and the system more prostrated and anemic because of the delay in consenting to an operation.

Dr. Joseph Price from his service at the Philadelphia Free Dispensary, reports severely consecutive laparotomies with but one death; forty-eight operations were performed by himself and twenty-two by his seven assistants. These were poor dispensary patients and nearly all of them were operated upon at their homes in crowded apartments, where the sanitary conditions are supposed to be bad. So-called antiseptic precautions were not rigidly observed, but absolute surgical cleanliness in every detail was practical. As the hospitals for abdominal surgery in this country have not reported such excellent results, it would appear that they are by no means a necessity, and we should look carefully to the future to

decide this important question, for if as good or better results can be obtained at the patients home, or in private residences, much has been gained, for private hospitals in any sense are expensive luxuries, which the poor cannot enjoy. Trained nurses may be easily obtained to care for patients in private houses.

These hospitals, when new and absolutely free from all infectious matter, give excellent results, but it requires much care to keep them in this condition, especially if they are large, and it can only be done by well-trained nurses under the immediate supervision of the operator.

In speaking of the Doctor's antiseptic precautions, I do not wish to assume a positive attitude for or against the use of antiseptics; but how can we reconcile the virtues claimed for these remedies with the fact that Lawson Tait, the most successful laparotomist in the world, condemns their use? But Mr. Tait believes in the logic of asepsis, and obtains the best possible results by absolute cleanliness. He removes everything from his person, the patient, the nurse, room, furniture, instruments, sponges, etc., that could possibly cause putrefaction or infection. It is probable that he sometimes uses certain so-called antiseptic remedies for their cleansing properties, but not for any supposed specific virtue as germicides or in destroying any form of contagium.

Antiseptics, in the accepted meaning, include remedies that are supposed to destroy pathogenic microbes; asepsis includes means that prevent the presence or growth of these microbes; or prevent harmless microbes becoming pathogenic by leaving no pabulum in which they may develop in putrefaction.

Ovariectomy as a legitimate operation was established by the faithful carrying out of the extra peritoneal or clamp method of treating the pedicle by Sir Spencer Wells, but experience has demonstrated that the intra-peritoneal method is preferable, and is the universal treatment of to-day. But

distinguished gynecologists are divided in opinion as to the best treatment of the pedicle in supra vaginal hysterectomy, one claiming excellent results by the extra peritoneal method, another equally good results by the intra-peritoneal method; in fact, Keith's results by the extra peritoneal method are not comparable with his results by the intra-peritoneal method. The intra-peritoneal treatment of the pedicle is more surgical, and I believe, will be universally practiced in the near future just as in ovariectomy now. While the pedicle in an ovarian tumor can nearly always be ligated so as to prevent the possibility of hemorrhage, this is not true of the uterine neck, which is composed of fibro-muscular tissue, and when so firmly ligated that hemorrhage seems impossible, often begins to bleed in a little while. It is probable that this danger of hemorrhage can be overcome by an improvement in the technique of the operation. Much of the tissue of the pedicle may be removed by a process of excavation, and the large vessels may be separately ligated before the deep sutures and the superficial sero-serous sutures are introduced, thus leaving in the abdominal cavity no denuded surface to suppurate or form adhesions to adjacent structures.

While hysterectomy for fibromioma is indicated in well selected cases, its mortality is out of proportion to the benefits received by the few, and the operation has probably done more harm than good, as the immediate fatal results exceed 25 per cent. in operations for the removal of tumors, that usually been a limited existence and rarely destroy or shorten life. No honest or conscientious gynecologist will subject his patient to such fearful risks, except as a *denier ressource*. But the desire to record cases in abdominal surgery has become so general, that the operator often cuts open the abdomen apparently in ignorance of his moral and professional responsibility.

Dr. J. A. Comings, of Indianapolis, said: In connection with a part of Dr. Eastman's

paper, the portion that discusses gall stones, I will state a case in point, and which I think carries with it some points of practical value. Three years ago this winter I was called to see a physician in a northern county, Indiana, who had an acute attack of jaundice, brought on by exposure. If my memory serves me correctly it was in the ninth week of the attack. I found him with all the symptoms of a severe attack. His skin was brown as an autumn nut, stomach irritable, no appetite, great exhaustion, no flow of bile since stricken down. The physicians in charge not being present, I made a few minor suggestions and took leave; was again called two weeks later, it being the eleventh week of the attack. He was worse—no bile had passed, and recovery seemed very doubtful. At this visit I met his physicians, and heard their statement and treatment. I could make no suggestions in the way of medication. They had covered the ground. I suggested the propriety of pumping the liver, by springing down upon its surface, forcing the thick bile out of the ducts, thereby opening the gate-way that the gall-stones might follow. This met with the physicians' views, and we sprung the ribs forcibly on the liver several times, with direction to repeat two or three times through the night. The following morning—perhaps ten hours after first pumping—dark greenish bile began to pass the bowels, followed closely with a great number of small gall-stones. Improvement soon followed and he was sitting up in a few days. Convalescence continued for two or three weeks, when he relapsed. Visited him again, pumped again. The bile and gall-stones passed as before, and from this time the patient moved on to ultimate recovery. The patient was about fifty years of age, with a good constitution.

Dr. J. M. Mathews: I have listened with a great deal of interest to this paper. It deserves all we can say of it in a complimentary way. The percentage of recoveries, after his laparotomies, is something re-

markable, and I regret to see it marred in the least. But the doctor reports one case among the number that I am sure, had he given it more serious study, the operation would have been omitted. I allude to the one of hysterectomy. It has become much too common, I think, to operate upon the cancerous patient, when there is no hope whatever of doing good. Evidently, from the history of this case, and the subsequent result, cancerous degeneration, with decided infiltration of all the adjoining tissues, had taken place, and the cachexia well established. I maintain that under such circumstances an operation should never be done. Surgeons will often extirpate the breast and leave untouched the axilla filled with infected glands, or perform hysterectomy with all the connecting lymphatics embraced in the disease, and after extensive adhesions have taken place. I cannot believe that an operation of this kind will either effect a cure, or even prolong life. Indeed, I believe in the case reported by Dr. Eastman, that the operation hastened death, as it will always do under such circumstances. Even granting that a patient should live for several years after the extirpation of cancer, it argues but little, for the reason that many live equally as long without surgical interference. Dr. Eastman's patient died in several weeks after the operation. It may be claimed that the operation was done to relieve pain. In a patient as far advanced as this one, in the cancerous cachexia, I could not grant even this much. Would it not have been much better to have quieted the pain by the usual administration of opiates, rather than subject the patient to so enormous an operation as hysterectomy? Many patients have cancer who suffer no pain. I can recall many from my practice who lived a number of years, and died with the disease, and pain was not a factor in the case. If it is claimed that the operation was done to prolong life, I must again dissent. To my mind this is an unproved claim, even in cases of less magnitude than the one reported by Dr. Eastman. On the contrary, I

believe that surgical interference often hastens a fatal result. When the disease has become constitutional, the blood corpuscles already diseased and infiltration by the cancer cell established, it is hard to believe that extirpation of the local disease, will stay its progress. When lymphatic infection has once taken place, we have yet to discover that power which will prevent its steady march. I notice that Dr. Eastman lays special stress upon the antiseptic, or rather the aseptic, condition of the wound while operating. I confess that this question of antisepsis and asepse, is a vexed one with me. Outside my own experience, I am a little chary about accepting notions like these, ever since Mr. Lister had to "take water" in regard to certain views that he promulgated several years ago. The world, however, owes a vote of thanks to the distinguished gentleman, if for nothing else, for teaching us to keep everything around us clean, including ourselves. I sometimes think that we too far forget both well-established physiological and pathological principles in the treatment of wounds, and "fly to others that we know not of." Nature is abundantly able to take care of herself, if we will only do our part, and the greatest of that part I imagine to be perfect cleanliness, in the treatment of all wounds. I wish, Mr. President, to again compliment Dr. Eastman's valuable and instructive paper.

OBSCURE SYPHILIS.

BY

ALLEN H. KELCH,
M. D.

The Importance of recognizing First Causes in the Practice of Medicine.

Read to the Louisville Medical Society, January 5, 1888.

September 24, 1881, Mr. P——, of Louisville, called at my office complaining of sore throat, which, on inspection, proved to be syphilitic; the secondary eruption was plainly marked upon

the skin. Contrary to advice he ceased attending October, 16, following, considering himself well.

November 27, 1882, more than a year later, it will be observed, he called again, requesting me to see his wife whom, he said, had that morning been given up to die of consumption by his family physician and his consultant. The condition of the woman at the time of my visit afforded good reasons for such a conclusion. The temperature was $104\frac{1}{2}$, pulse fluttering and weak, respirations rapid and shallow, subsultus tendium, delirious restlessness,—in short, examination showed the woman to be apparently dying in the period of hepatization of pneumonia. One eighth gr. morphine hypodermically, followed in a few minutes by a combination of chloral, bromide, and iodide of potassium afforded a lull that gave time for reflection. There were no signs of infection observable by simple inspection and this was no time for searching investigation. Remembering that 'a good pox, like the daily bread, is shared by both husband and wife,' I resolved to make the saw a basis of treatment. Her little remaining vitality was carefully sustained and iodide of potassium as rapidly pushed as possible under the circumstances to the point of toleration. This woman recovered, and, what is better remains today a comparatively healthy mother to three children born before her unfortunate acquisition.

Since the writing of this paper I have been, January 10, 1888, called again to see Mrs. P. She is confined to her bed and tells me she has been sick nearly constantly since last July. She complains of insomnia, constant cephalic pain referred to the back-head; tinnitus aurium; leucorrhoea. She was not examined as to the condition of the uterus. She has alopecia and cervical adenopathies, constant vertigo and her vision has materially failed. Since I saw her last, professionally, five years ago, she has given birth to one child, still-born at term.

Her mother-in-law who was present at this visit, asked me if this state in which I found Mrs. P. was not hysterics! A sister-in-law, who acts the part of nurse, says she thinks sometimes Mrs. P. is crazy.

Case 2. July 12, 1881, called to see Rosa B——, of Louisville, aet 4, said by the parents to have 'summer complaint.' The child was mostly belly; her hair was dry and frizzy—dead looking—the complexion was like skim milk but her body skin had on it a furfuraceous eruption: what was of more importance she had the notched teeth of inherited syphilis. Syr. Ferri iodidi and $\frac{1}{24}$ grain doses of calomel formed the basis of treatment and the child grew healthy.

Nearly two years after I was called to see the father of this child; his urine appeared to be blood except it underwent no coagulation; convulsions had occurred exciting suspicions of uremia; extreme prostration and stupor strengthened them. He presented no distinctive signs of syphilis that I could make out by such examination as could be made under the circumstances and without a reference to this child it would probably have been overlooked as a factor in his case. Under a treatment based on this knowledge however he soon recovered sufficiently to return to his business at which he still continues without further treatment in what he considers good health.

Case 3. Wm. V——, of Louisville, aet 27, was seen October 16, 1885. He had what appeared to be rheumatism or a sprain of the left ankle joint; his general condition was too good for rheumatism and he could remember no hurt he had received; he admitted on inquiry that he had a lump in his groin but refused to expose it saying it could have nothing to do with his ankle. Anti-syphilitic treatment quickly cured him of both his lame ankle and to some extent the lump. About three weeks later he asked me to look at a sore that had been on his penis for 6 or 8 months. That soon healed and 2 months later he appeared with syphilitic ulceration in the throat and nose. Having quite recovered from that, he again ceased treatment contrary to advice and remained unheard of 6 months when he returned again on account of his throat; again he was relieved and again he disappeared this time to remain

away till last October when he came suffering from violent cephalalgia. The next day having got relief, he informed me that the sore on his penis had 'broken out again!' By the time this healed his countenance appeared a halo of light illuminated by the corona veneris which he wore. His experience has demonstrated to him the truth of what I told him when first he came under my charge, that it would require 2 years of uninterrupted observation, and the most of the time, treatment to cure him. He now returns regularly weekly.

Case 4. Thomas C——, of Louisville, aet 30, July, 1887, had hydrarthrosis of the left ankle. I recognized in him a man who had called upon me once or twice under another name in 1881 with an initial sore. Sodium iodide and a Martin's elastic bandage put him on his feet in a short time. He denied specific infection as well as having ever seen me previously.

Case 5. D. P. Y——, of Louisville, aet 48, called at my office January 8, 1887, having tinnitus aurium with hearing somewhat diminished in acuteness. Inspection showed only moderate catarrh of the respiratory mucous membrane and inquiry elicited the fact that he contracted syphilis when he was 23. He was treated for 18 months and among other measures by mercurial baths by the late L. P. Yandell, Jr., of this city. He then married and has now one grown daughter a remarkably fine specimen of young womanhood. He says she has never known a day's sickness beyond the measles and such other slight distempers of childhood. Her appearance confirms his statement. Sodium iodide, the use of the eustachian catheter, and cleansing and soothing sprays to the respiratory lining at once relieved him and he remains well today. His wife is living; she conceived but the once; she has delicate health.

Case 6. Mrs. B——, of Indianapolis, aet 30, had been impregnated 8 times; she had had 3 abortions; one child at term still-born and one that died in the first 3 months after birth, reputedly, of cholera infantum. Her

oldest living child a girl of 8 and the sixth in the order of birth had notched teeth and the rachitic diathesis; the next a boy of 4 and the seventh in the order of birth had notched teeth and had lost one eye, the mother said, by caustics put into it by ignorant doctors when he was 2 years old! The 8th, a child of 6 months, had the snuffles. The husband had returned within the preceding month from the insane asylum at Indianapolis where he had been placed 6 months ago. He was still regarded as unsound in his mental condition though he was now employed in one of our freight depots as a bill clerk. The woman herself had a phagadenic ulcer of the rectum and buttocks of frightful extent and appeared to be dying of lung consolidation. She had been given up to die of consumption two days before I saw her by a most competent physician. She expired within the week.

Case 7. Mrs. D—, aet 47, of Lebanon, Ky., came for treatment July 28, 1887. She was suffering from a profuse and offensive discharge which had been in existence for nearly a year. She had conceived but once and was delivered at term after a four days confinement of a still-born child weighing 14 pounds. She was then 24 years of age.

Examination revealed complete absence of the cervix uteri, which had no doubt disappeared by ulcerative processes still in operation and even now progressive in character presenting a surface of the size of a twenty-dollar gold coin. I was unable by the most rigid investigation to elicit any history or evidence of primary or secondary manifestations beyond the candid confession of the husband that he had suffered from a sore on his penis 25 years ago which appeared a few days after a frolic and which soon healed without treatment. To this time he has never suffered that I could discover.

Sodium iodide rapidly increased from 10 to 60 gr. doses every 4 hours daily and boric acid packing of the vagina caused rapid healing of the ulceration until it had reached

the dimensions of a silver three cent coin. Here it stubbornly resisted treatment and further increase of the iodide was not tolerated; her condition being greatly ameliorated she was allowed to return to her home for a short time. She was enjoying the holidays when I last heard from her.

Case 8. Mrs. G—, aet 34, of Louisville, came under my charge December 9, 1887. She had been 4 weeks under the charge of a regular physician who pronounced her suffering from Bright's disease and incurable. I found her suffering from a violent cystitis with incontinence of urine and other attendant manifestations. In addition she had general oedema, valvular insufficiency and twins 7 months old. A glance at the children revealed all. She was ordered sodium iodide infusion of digitalis, and locally, injections of hot water into the vagina 3 times a day. January 1, 1888, the cystitis has become a thing of the past, this lady eats and sleeps well and is going about her home. She still has slight oedema of the legs which will no doubt yield to this continued treatment.

Case 9. Mrs. H—, of Bowling Green, came for examination December 25, 1887. She is 67 years of age, the mother of five children four of whom are living and healthy one having died at 5 weeks. She never had an abortion nor a miscarriage. Her youngest child is a man of 33, robust and strong. She ceased menstruating at 51, since which she says she has had more or less diarrhoea but her appearance does not indicate that she has suffered much exhaustion from it although she appears feeble.

She could hear only loud conversation with one ear. She then watched the speaker's lips very closely to determine what was being said. Tinnitus aurium was very troublesome and as she expressed it she was worn out by the constant roaring in her head. She complained of violent supra-orbital neuralgia and lumbar pain which she attributed to rheumatism. Inspection showed a very slight scaly eruption on the face below the

left eye; cervical adenopathies particularly distinct, there being one enlarged gland the size of a walnut projecting above the upper edge of the inner third of the right clavicle. Her respirations were rapid and tremulous, which, along with a general though slight oedema, led me to examine the heart closely. The valves were neither obstructed nor insufficient, but the rythm of pulsation was impaired.

The catarrh of the respiratory lining was not severe but it bore the appearance of long standing. There were no sores from previous ulceration. There was alopecia. Sodium iodide in 10 gr. doses every 4 hours, local cleansing and soothing applications to the membrane lining the nose and pharynx followed by inflation of the drum cavities with the eustachian catheter comprised the treatment instituted. A very favorable prognosis was given.

January 2, 1888: One week has elapsed; this patient hears conversation conducted in an undertone with the face of the speaker directed from her; the tinnitus aurium has nearly ceased; the supra-orbital neuralgia and the lumbar pain have passed away; the sleep is sound and refreshing the appetite improved and the bowels regular; the respiration is no longer tremulous and the palpitation of the heart occurs only under unusual exercise. The enlarged gland beneath the clavicle is not now tender but I am uncertain as to any decrease in its size. The general oedema has nearly vanished. What the past has brought can be the only measure of what the future shall bring for this good and kind hearted old mother whose steps have long since begun to totter under the weight of added years to say nothing of specific infection.

Could such a chain of cases impress one principle more deeply than another it must be the importance of determining at once and accurately the first causes of disease in the practice of medicine and surgery.

To give a name to a diseased condition is but the a. b. c. of diagnosis, Without a

clear conception of the nature of a pathological condition no very definite ideas of appropriate treatment can well be formed.

Such lists can be extended, *ad infinitum* by the better class of general practitioners who form the bone and sinew of the medical profession; but to the real and true specialist in every field do such concatenations possess a deeper interest, for it is in the refinements of general practice that true specialism sinks its deepest roots and out of which the specialist must develop if he would reasonably expect the recognition that genuine merit is always accorded.

In some of these reported it would seem that the merest tyro could not err yet in the very plainest cases thus developed such errors have occurred and that too by men of whom such errors would be least expected. Men who have grown gray in medical teaching, who have occupied professors chairs and still occupy them in our medical colleges, men whose hearts are on a level with their talents and who enjoy the respect and confidence of a large clientele in practice, have overlooked the original causes of disease in such cases as that reported in case 6.

That an infection capable of such varied and multiple manifestations could be overlooked seems impossible; that it often escapes recognition, especially in its later stages by most competent men, is indisputable.

The history or the presence of chancre, and of such secondary manifestations as cutaneous eruptions crusts of the hairy scalp, cervical adenopathies, phagedena, and the various forms of syphilides either separately or collectively ought to make a plain case. Even those tertiary manifestations that occur in women who have acquired the disease by marriage in whom both primary and secondary symptoms have been absent ought not to be overlooked when they show themselves by such unmistakable signs as alopecia, multiple abortions, gummata, catarrh of the mucous membranes and as a result interference with the functions of the organs affected.

It would appear in every case that begins

to baffle the skill of the most competent physicians, a good plan to return to first principles, for herein is found the key to the secret of success that attends the efforts of the most renowned and skillful. A return to first principles may not always result in the discovery of a syphilitic taint but it may result in discoveries quite as important and lead by straighter paths to speedier success with the case in hand.

To enter the field of the practice of medicine and surgery and successfully meet the odds in favor of failure a man must be a comprehensive man, able to classify, to regard all circumstances in the concrete and above all to recognize at once and accurately the primary causes of disease.

A FIBRO-CYSTIC
TUMOR OF
THE UTERUS.

BY

A. J. BANKER,
M. D.,
COLUMBUS, IND.

An Account read to the
Mitchell District Medical
Society, at Seymour, Ind.,
Dec. 16, 1887.

About the middle of November I was consulted by Miss J——, aged 27 years, of slender build and presenting the physiognomy so characteristic of uterine and ovarian tumors.

She gave me the following history: Menstruated at fourteen years, and continued

normal in menstrual periods until the age of twenty-two, when she had an attack of hemorrhage at menstrual period which lasted for near two weeks. At each recurring period the hemorrhage was profuse and lasted from two to three weeks. About this time there appeared in the left side a growth which extended to centre of median line of the abdomen. Sometimes the tumor felt hard and sometimes soft. The growth was slow but continuous.

The hemorrhage lasted for near two years; when menstruation again became normal and so continued up to the time of my examination. She was much exhausted, anemic and little but a frame, save the enor-

mous abdomen. The tumor was of such enormous dimensions that it materially interfered with respiration, and seemed so heavy that it was with great difficulty that she could get about.

The tumor seemed to occupy all the pelvic space save a small point in left flank which gave resonance on percussion. Fluctuation was indistinct, but it was clearly made out, that there was a fluid, and perhaps some solid structure in its composition. The os seemed to be obliterated, and it was impossible to make out the relation of the parts, as the tumor pressed and filled the entire pelvic cavity. She was quite anxious that something might be done to relieve her. After giving her a full detail of what an operation might do, she left the office and returned to her home in the country. After two weeks she returned, fully determined that an explanatory incision should be made, and if possible the tumor removed. On November 30, the patient was anaesthetized and in the presence of Doctors McLoad, Butler, Voris, Francis, and Norton. I opened the abdomen between umbilicus and pubes, and came in contact with a fluctuating tumor, which insinuated itself into the opening, pushing up from the right of the incision, it was pushed to one side and a semi-solid tumor came fully into view, which presented a small glistening point, showing a small cyst which was pinched up with forceps and a small opening made into it, when there discharged, about one teaspoonful of clear fluid. Another soft fluctuating point was selected, when I thrust into that a small trocar, but obtained no fluid, I then used a larger, but with the same result. I then made a small incision into the tumor and emptied a few small cysts. I then enlarged the abdominal incision sufficient to introduce my hand. I found the tumor adherent to abdominal walls by weak adhesions, which were easily separated. I found on each side, low down in the pelvis the ovaries, and by passing to posterior aspect I found that it made the right kidney a part of the tumor and adhered

EYE, EAR, AND THROAT.

SYMPATHETIC

OPHTHALMIA.

BY

J. L. THOMPSON,
M. D.,

OF INDIANAPOLIS.

Read to the Mitchell Dis-
trict Medical Society, at
Seymour, Ind., Dec.
16, 1887.

If I were to make an apology for writing up-
on a disease which is
spoken of by all writers
on the eye, it would be
the very great impor-
tance to the physician
of a thorough knowl-
edge of the diseases
and wounds which are
liable to result in this
dread affliction, which

has blasted so many fair lives, and impover-
ished so many families, by striking the pa-
rent with total and irreparable blindness.
Often does it appear where least suspected,
and when once fairly set up, it is too late for
help.

As the name implies, it is a secondary
affection, following disease of the other eye.
It usually follows a wound, but this by no
means obtains in all cases. I have seen it
caused by ulcerative inflammations of the
cornea, iritis, cyclitis, irido-choroiditis and
other inflammations, but, as before said,
foreign bodies in the eye, or wounds in the
ciliary region are by far the most frequent
factors in its production.

I will therefore mention a few of the cases
which I have met with, and comment on the
disease afterwards. Some of these I shall
simply mention from memory, where they
are indelibly imprinted, but the patients'
names have escaped me, or I would have
turned to their records and given dates, as
commencement of the primary disease of the
first eye, date of commencement of sym-
pathetic inflammation, date of total blindness,
etc., etc. Some of these I take from said
record in my case books, having remembered
the names of the patients so affected. I
will not record the cases in their order—as
to time that they were brought to me—but
first, those which followed disease; second,
those which resulted from wounds and for-
eign bodies in the other eye.

to omentum. I recognized the fact that I
had to deal with a fibro-cystic tumor of the
uterus and that its removal was an impossi-
bility.

The wound was closed and dressed and a
drainage tube fastened in the wound. She
was taken from the table almost moribund,
but by hypodermic injections of whisky and
applications about her of bottles of hot water,
she reacted quickly. On the following day,
she showed a temperature of 99, and seemed
quite cheerful.

The second day she had a temperature of
100. On the third day the temperature sud-
denly rose to 104.

In the evening a free drainage set up,
which was followed by a fall of temperature
to 100. Her temperature ranged from 100
to 101 for two days when it became normal
and continued so until her death, which oc-
curred on the morning of the 6 of December.

The *post mortem*, which was held about
six hours after death, furnished the specimen
which I have the pleasure to present to this
Society to-day. It is a distinct cyst, in
which is enclosed the right kidney, the left
ureter and the bladder, while the ovaries re-
main an appendage. The tumor, I have not
opened but submit it to you for inspection.

There was nothing abnormal to be found
in the abdomen save what you see here.
The liver, spleen, intestines and left kidney
were in a normal condition and were per-
fectly healthy. The tumor, after its removal,
in which two or three cysts were punctured
and the fluid allowed to escape, and after
the evacuation of a quantity of fluid at the
time of exploration and a drainage for five
days; weighed 29 lbs.

The tumor was adhered, only to omen-
tum. There were no points of attachment
near the region of right kidney. No vessels
to be seen nor any evidence that there ever
had been a kidney in that locality.

The incision through the tumor showed it
to be fibro-cystic and the right kidney was
composed of the same structure, as well as
the walls of the bladder.

One was a German boy, about twelve years of age, who contracted purulent ophthalmia in one eye from his little baby sister. His physician informed me that it was not until nearly three months after the first eye was affected that the parents noticed the sight of the second eye failing. No sooner was the physician appraised of it than he brought the child to me. I found that the right eye was lost from corneal inflammation and leucoma-adherens, with imprisonment of the iris at the corneal margin. The left eye had a partially closed pupil, which could not be dilated by mydriatics. His vision was simple perception of light. I told the parents that an attempt to benefit it was a forlorn hope, but that we would see if an iridectomy could be made. This was tried, but we only succeeded in getting a small piece of iris, it being so firmly adherent to the capsule of the lens. His vision was improved for a few weeks, but subsequently became as bad as when first seen, and he passed from under my notice.

The next case was one in a youth, which followed an ulcerative keratitis, in which deposits of lead in the cornea seemed to be the exciting cause of the sympathetic inflammation of the other eye. The second eye was totally lost from irido cyclitis, with closed pupil, by a false membrane.

Another, was the son of a Presbyterian preacher in the southern part of our state, brought to me about nine years ago. The father gave the following history: "In the early autumn some of his son's school-mates had caught a rare bird with a very long bill. His son held his face very close to the cage, and was pecked in the right eye. The father, having read medicine a little, treated it with simple medicines, and finally called in the aid of a neighboring physician, but finally the eye became blind. About the following Christmas time, the other eye began to look red, and the boy complained of his sight blurring. It, also, was treated until March, when they found the sight so bad that I was consulted. I found the right eye

hopelessly lost and very tender in the ciliary region. The left was also very tender, with much lachrymation and photophobic $V = \text{but } \frac{1.0}{200}$, and he had a partially closed pupil from iridocyclitis. I told his father that it was too late. He took him to Cincinnati, had the first pupil enucleated; he improved for three days, but afterwards became totally blind, and the poor little fellow went to our Blind Institute, where I afterwards saw him.

The next case. J. H. S., aged 30, a Swede, was struck in the left eye on January 27, 1871, by a piece of a cold-chisel, while cutting a rivet. He was seen on the 28th, when we found the cornea cut throughout its entire vertical diameter; the iris and lens were also wounded. The lens was immediately extracted through the wound, and was treated according to the usual practice at that date for cataract extraction by bandaging and a mydriatic. The aqueous trickled out through the wound for one week; after this, the corneal incision healed, with a synechia anterior. He improved rapidly, and went to work in three weeks. On March 11th he again came, suffering much pain in and around the injured (left) eye, with slight dimness of vision, glimmering and dazzling before the right eye; indeed, he had sympathetic irritation well marked, but not sympathetic inflammation, as the pupil dilated readily. He was strongly urged to have the injured eye taken out, but would not consent. He returned on the 15th, when the right eye was found to be much worse, and an abscision of the anterior portion of the wounded eye was made while the patient was under chloroform.

He suffered severe paroxysms of pain for four months. For nine days these paroxysms would come and go, night and day, then an entire intermission for two or three days. Again the paroxysms for nine and a complete intermission of three, each time leaving the vision a little worse; but, in spite of the mydriatics, the iris gradually contracted and became tightly glued to the lens capsule.

He suffered as above described until June 25th, when an abatement took place, and he left the Cincinnati Hospital June 30th, V $\frac{1}{15}$. August 2nd had had no further attacks, pupil closed by a thin false membrane, so that the aphthamoscope only revealed a faint red reflex from the fundus.

As the poor fellow was very anxious for something to improve his vision, an iridectomy was attempted, but, as is usually the case, with only partial success, owing to the firm adhesions, consequently but a small portion of the pupillary margin could be drawn out after repeated efforts. He finally moved, with V $\frac{1}{10}$, after which we saw nothing more of him.

On March 6, 1879, a similarly unfortunate case consulted me. James F., aged 21, a fine looking mechanic, wounded his left eye while cutting a boiler rivet with a cold-chisel. The foreign body passed through the lower outer border of the cornea, iris and crystalline lens. He was treated for a few days with ice-cold dressing, but he was urged to have the eye removed, as it was hopelessly blind. Over, and over, again did I tell both him and his sister that there was great danger in retaining such a wounded organ, until one day, I declared that I would not see him again unless he came to have it taken out. He went off, and I saw nothing further of him for three months, when both eyes were hopelessly lost, he having gone to another doctor, who tried to get along short of an operation, but had to abscise the anterior portion of the wounded eye May 3rd, when, doubtless, too late.

And so I could go on, with case after case, in which the eye has been removed after the sympathetic inflammation has once been started in the other, and the second eye has gone on to destruction.

On the other hand, I could report several hundred cases, in my own practice, where the offending eye has been removed before sympathetic inflammation has started in the other, and never has it come up subsequently.

Again: It would be an easy thing for me

to report a score or more of cases in which the offending member has been removed after the stage of *sympathetic irritation* has been set up, and a successful result followed.

One occurred in a lady twenty-six years of age, who had lost the sight of the right eye in infancy, from ulcerative keratitis and subsequent shrinking of the globe. The eye remained apparently in *statue quo* for twenty years, and then commenced to feel sore and become red. This went on for a few months, when dazzling and a waviness appeared in front of the other eye, when I was consulted. The right was found to be atrophied, and very tender to the touch. The left had an episcleral pink zone all around the cornea, the pupil dilated easily, V $\frac{20}{xxx}$. I enucleated the right eye and found that the vitreous choroid and crystalline lens had undergone calcareous degeneration, and that the sharp edges of the calcareous mass had caused the tenderness in the ciliary region, and produced the sympathetic irritation. I here present the specimen.

A few years ago a very prominent gentleman from the southern part of our state came to me with a violently inflamed eye which had been injured by a percussion cap twenty-three years before. He told me that it became blind almost immediately after the injury, pained him terribly for two months, and afterwards gave him no further trouble until two weeks prior to my seeing him. He had sympathetic irritation. I removed the injured eye, found the remains of the piece of cap, which crumbled to pieces in handling it. I often see him now, and he has no trouble whatever with the other eye.

But I will not weary you with a dry report of cases; we will, therefore, for a few moments consider the route taken in these sympathetic inflammations.

Many of the older writers—a majority, indeed—supposed it was through the medium of the optic nerve, and this theory has recently been revived through the light of Bactereal Pathology; but a very large ma-

jority of the conservative members of our profession believe that it is through the ciliary nerves that the disease is propagated, and that baccilli have but little to do with it.

Striking evidence of the correctness of this view is found in the fact that when one has to do with suppurating inflammations of no matter what part of the eye, sympathetic inflammations are scarcely ever known to follow. Indeed, for Græfe and others were in the habit of causing suppurative inflammations by the introduction of seatons in the eye to prevent it. Such a practice one would suppose would delight the infinitesimal souls of these stinking little baccilli.

But one must not dwell too much on this part of the subject in this practical society. The causation, prognosis and prevention being of far greater moment.

As before said, traumatism holds first rank in the causation of this dread disease. Wounds in the ciliary region and foreign bodies lodged in the eye, above all others, give rise to it. It is almost astonishing how small a body will set up the trouble. I have seen it follow the slightest piece of steel, no larger than a pin's dull point, or from the finest particle of a thorn bush. These may set up the process in a few weeks, and again may lie dormant in the eye for twenty or thirty years, and then cause it. Couching of the lens, spontaneous or traumatic dislocation of the lens are occasional causes. Cicatricial atrophy of the eye-ball, synechia anterior, following corneal ulceration, or posterior after iritis and numerous other affections of the eye-ball.

Prognosis.—If seen during the stage of ciliary irritation, before the pupil is adherent to the lens capsule, a cure is to be expected by removal of the injured organ, but if suffered to pass the boundary line, better by far have nothing to do with the case than to have the name of operating, unless every phase of the subject be laid before the sufferer, as it is almost invariably too late to benefit him.

Treatment.—In the foregoing remarks it

will be seen that this part of the subject has been anticipated, but I will repeat that preventive treatment is of the utmost importance.

When a foreign body has entered an eye and caused blindness, if it is found that said body cannot be safely removed, urge the enucleation of the eye. Or if an incised or lacerated wound has been made in the ciliary region and the eye has been blinded thereby, warn the patient of its danger to the other eye. When an old stump remains tender look with suspicion upon it and cause the patient to do likewise.

When one eye is hopeless and the other in imminent danger, it is far better to refuse to see the patient any more unless he comes for the operation, than to dilly-dally with the case and then suffer blame.

'Tis true you will often urge the removal of an eye and thereby cause the sufferer to seek advice elsewhere, and in after years he will tell you that it has given him no trouble, but remember what Solon said to Cræsus: "Quote no man happy until he is dead;" so in this, quote no man with a wounded eye safe from sympathetic ophthalmia until the breath leaves his body, as it may come up at any time.

Suppose again that a foreign body has entered the eye and the patient still sees with it, but it remains painful in the ciliary region, and there is photophobia and lachrymation? If the body cannot be removed, advise enucleation. If, on the contrary, a foreign body enters an eye, which in a few days ceases to give trouble, and the sight clears up afterwards, then one can put the patient on his guard, telling him of the danger and urging him to come if even the slightest change takes place in it. I have several such now, who are filling their avocations with the bodies incised, but they are, as it were, dwelling on the slopes of moldering volcanoes.

A more difficult question to decide is where a wound through the ciliary region constantly teases the eye, impairing the sight somewhat

but not entirely destroying it, pain, photophobia and much lachrymation goes on for months, keeping the patient from work of any kind, in spite of one's treatment; finally, after months of suffering, symptoms of irritation take place in the other eye. What is to be done? This question is usually answered as follows: Do not enucleate the eye, because if sympathetic inflammation is set up the latter eye will be lost and the first eye will be saved. This, I contend, is bad teaching. If both could be saved by such a course it would be otherwise. I have in many cases of laboring men enucleated eyes so wounded, after months of suffering, so as to enable the man to go to work with one perfect eye, deeming it far better to save one sound eye than to run the risk of losing both, and at last, by such a plan, to have but one poor eye left.

Two other operations are often practiced in the place of enucleation, namely: Abcission and Evisceration. I contend that when the patient is in immediate danger, these operations are not to be considered as substitutes for the method above mentioned; indeed, in such cases they should not even be thought of, as sympathetic ophthalmia by no means rarely follows these operations. After an enucleation, it is the rarest thing to have any pain or reaction, but it is the rule after both of the other operations. After an enucleation a man may go to work in one week, but after an abcission not for six or ten weeks. Often do I let my patients go home the same day, an hundred miles distant, but never after the other operations.

Abcission does very well for a staphyloma of the cornea. Evisceration in panophthalmitis with cellulitis of the orbit.

RESUME.

1st. Sympathetic Ophthalmia sometimes follows the ordinary inflammation of the eyeball.

2nd. It is very prone to follow wounds in the ciliary region and foreign bodies lodged in the eye.

3rd. Cicatrized stumps are great sources of danger.

4th. Urge the removal of all blind eyes in which foreign bodies are lodged.

5th. Abcission and evisceration are by no means reliable substitutes for enucleation for the prevention of this disease.

6th. When an eye, wounded in the ciliary region remains irritable, and threatens the other, remove it, even though it retains a moderated fair degree of vision. Better, by far, have one good eye than to run the risk of losing both, and at best save but one, the poorer eye.

EXTRACTION OF CATARACT WITHOUT IRIDECTOMY. BY S. C. AYERS, M. D., OF CINCINNATI. Read to the Mitchell District Medical Society at Seymour, Ind., December, 16, 1887.	For more than twenty years the operation for extraction of cataract known as that of von Græfe has held sway as the one most approved and successful. It has been modified in various ways by slight changes in the location of the incision, in the manner in which the capsule
	is incised, in the shape of the iridectomy and in the method of expulsion of the lens; but, after all, these operations are essentially Græfe's
	The study of the evolution of cataract from the time the first linear operation was made by Gibson in 1811 to the present day, is one of interest. Many eminent men have added their quota of experience, and have demonstrated their methods which have had more or less to recommend them, but to no one is so much credit due as to Græfe, who appeared as a genius possessed of remarkable power.
	This is not the time, nor the place to note the various interesting steps of this evolution. Mr. Critchett, of London, in an article written for the "Reports of the Royal London Ophthalmic Hospital," in 1865, says, after

mentioning the names of those who had devised various operations for the extraction of cataract: "justice compels me to state that these gentlemen lighted their tapers at the torch of their great master Professor Græfe."

Ophthalmology as well as all those afflicted with eye-disease will always be indebted to this bright genius whose course was so short and yet so brilliant. This much can be said without fear of contradiction, his operation was a great improvement on any devised before, and the results have been eminently successful. It has stood the test of time and it remains to be seen whether anything better will ever be devised.

While the visual results of Græfe's operations were so good, yet there were objections to it on account of the coloboma of the iris which remained. If the lens could be extracted equally safe without the iridectomy would we not then have the ideal extraction? Numerous operators have made attempts to accomplish this, notably among the French School, and it seems as if they were taking the lead in the new departure, which to say the least, promises very much. Whether it will supercede Græfe's remains to be seen. Time and the collection of statistics covering a large number of cases can only decide.

I do not think from my limited experience that the operation is much more difficult than that of Græfe. It has this very great advantage, we get rid of the speculum which is always a source of danger.

It seems quite certain that all operations on the eye are more successful now than formerly owing to the antiseptic precautions which are taken. This is shown quite conclusively in the report of a series of one thousand successful cases of extraction of cataract by Dr. Knapp of New York.

They are reported in series of 100 cases; in the first hundred there are 70 per cent. of good results; in the second hundred, 86 per cent.; in the sixth series, 89 per cent.; in the eighth series, where antiseptic precau-

tions are taken, 90 per cent.; and in the ninth and tenth series, 90 $\frac{5}{10}$ per cent.

The operation of extraction without iridectomy is done with a Græfe's knife or with one much narrower by De Wecker. A 4 per cent. solution of cocaine is instilled about 3 or 4 minutes before the operation. The puncture is made in the cornea near the corneo-scleral junction and the knife is carried rapidly across the anterior chamber and the counter puncture made at a point opposite, and the corneal section is completed as rapidly as possible so as to prevent prolapse of the iris.

During this step the lids are held open by an assistant. The lids are now closed for a moment and the cystotome is then used. The patient is directed to look downward but the eye is not fixed. The capsule is freely divided in the center and as far as possible toward the periphery. Care is required in removing the cystotome so as not to catch in the iris. The patient is then instructed to hold the eye very quiet while pressure below is made with the back of the spoon or with the point of the index finger over the lid, as I prefer, until the lens is expelled. As it comes out the iris is pressed forward and out of the wound, but upon the expulsion of the lens it generally goes back spontaneously within the lips of the wound. If this is not the case, gentle rubbing of the ball by circular motion with the upper lid will replace the iris. If this should not suffice, the use of the spatula can be resorted to.

After the expulsion of the lens it is better to keep up the pressure on the cornea from below until all the soft cortical substance is expelled before allowing the iris to replace itself. After having resumed its original position it is difficult to remove particles of cortical substance without running some risk of rupturing the vitreous.

If the iris prolapses and cannot be replaced it can be excised very easily.

The antiseptic precautions preceding an operation are as follows: The face of the patient is washed first with soap and water and

then with the antiseptic solution of Panus which is Hydrarg. Biniodide 1, alcohol 500, water 20,000.

The instruments are laid in a bath of the same solution in a porcelain tray such as photographers use and remain there until they are needed.

The hands of the operator and assistant are first washed in soap and water and then in the antiseptic solution. The conjunctival sacs of both eyes are also washed out freely with the same.

After the operation the lids are closed and a pledget of absorbent cotton saturated with the antiseptic solution laid over the eye. Over this is a flap of muslin or linen which hangs down over both eyes. This is fastened to the forehead by a strip of adhesive plaster. No bandage is applied and the head of the patient is free to move in any direction.

By lifting the flap and renewing the cotton the eye can be inspected at any time.

Bandages have been superceded by this simple dressing which is comfortable and at the same time allows the operator to inspect the eye whenever necessary. The morning after the operation I remove the cotton and inspect the lids. If they are normal in appearance, not swollen or puffy, I place a fresh piece of dry cotton over the closed lids. I do not hesitate to inspect the cornea if there is any suspicion of any threatened inflammation. If the lids are normal in appearance, it is very good evidence that the cornea is doing well. In such a case I simply draw the lower lid down and instill a drop of eserine and close it again.

The great advantage of this simple dressing is that the eye can be inspected without discomfort to the patient. If patients become tired they are allowed to sit up the next day. And occasionally a very smart old lady will be dressed the second day.

It is not necessary to exclude the light, on the contrary, it need only be slightly modified.

It is too soon to form any opinion as to the value of this operation. My limited ex-

perience impresses me favorably and I hope that more familiarity with it will prove that it is a step in advance. If we can extract as safely by this method as by Græfe's and still preserve a round central pupil we will approach, if we do not actually accomplish the ideal operation. It seems reasonable that the insult to the iris caused by the expulsion of the lens through its papillary opening is less than that of excising a segment of it.

The difficulties of the operation can be overcome by experience, and with antiseptic precautions carried out to the fullest extent, we may hope to improve on the brilliant results which have been achieved during the past twenty years. There is no one operation which is best suited for *all* cases, so that even although extraction without iridectomy should come in vogue, yet, we may expect to resort to the Græfe method when it is indicated. The simple extraction is best suited to cases where there is little or no soft cortical substance. The removal of cortex without an iridectomy is more difficult than with it.

It will take years yet to determine the value of this method of extraction, but I predict for it brilliant results in suitable cases.

EXTRACTION WITHOUT IRIDECTOMY.

The operation of extroction of cataract without iridectomy has been practiced extensively by Mooren, of Düsseldorf; Manolesen, of Bucharest; Burnett, of Washington; and, in fact, nearly everybody in this country.

Dr. Galezowski, of Paris, whose experience is as extensive as the French capital, extracts through the dilated pupil exclusively, where no synechia exists.

Galezowski said, at the the Ninth International Congress, he regarded iridectomy in cataract extraction as a very grave accident, greatly complicating the patients chances of recovery, and where recovery is otherwise complete the coloboma impairs the function of the eye by allowing an irregular, and abnormally large opening for the entrance of light.

OBSTETRICS AND GYNÆCOLOGY

RAPID DILATATION
OF THE
CERVIX UTERI.

Its Agency in the Treatment of Flexions, Stricture, Endotracheitis, Conical Cervix, Dysmenorrhea.

BY

YOUNG H. BOND,

M. D.

Gynecologist to St. Luke's Hospital. Consulting Gynecologist to the Female Hospital.

Read before the St. Louis Medical Society, Nov. 26, 1887.

To Dr. Mackintosh, of Edinburg, is due the credit of having first directed the attention of the profession to the mechanical cause of certain diseases of dysmenorrhea, and the suggestion of mechanical means for their relief, consisting in gradual dilatation of the cervical canal, by means of flexible bougies or metallic rods of gradually increasing volume.

Rigby was the first to use a dilator with steel blades, which were opened and left for some time in the cervix. Raymond, of Montabán, Simpson, Sims, and various others sought to accomplish the same end by the use of various materials as dilators, such as metallic stems, wax bougies, aluminum and other metals.

Simpson and Sims lived to repudiate this method of treatment, and substituted therefor incisions.

In 1871, Dr. J. Frotheroe Smith, of London, in setting forth his plan of treatment in certain cases of dysmenorrhea and sterility, says that after giving Dr. Simpson's plan of incision a fair trial, he gave up the use of the hysterotome and adopted forcible dilatation using a dilator made after the model of Heurteloupe's Lithotrite, by which he conceived it practicable to dilate permanently the constricted os-interum, and afterward when necessary to give the normal shape to the os-tinæ, by dividing it laterally at the commissure of the labia-uteri.

He confined this treatment to cases of simple stricture of the os-interum, and narrowing of the cervical canal and mouth, excluding as inapplicable all cases even of

this class, until all inflammation of the parts had been relieved.

His method consisted in accustoming the uterine canal to the presence of a metal bougie introduced daily, of increasing size to a number ten, then the dilator was employed cautiously every second day, desisting from dilation as soon as pain was produced, proceeding after this method, in the course of a few days or weeks as the case might be, he succeeded in dilating the canal to the extent of an inch or an inch and a half.

After this the dilator was used daily for two or three days, and afterwards at increasing intervals, to maintain the patency of the parts until they permanently healed in a state of distention.

In 1873, Dr. John Ball, of Brooklyn, N. Y., read a paper before the Kings Co. Medical Society, of N. Y., advocating dilation of the cervix uteri in a far more rapid, forcible, and heroic manner than had ever before been supposed prudent or admissible, and recommending it as a means of relieving stricture, endo-cervicitis, flexions, etc.

Accompanying this paper was the report of a number of cases of mechanical dysmenorrhea, dependent upon the above conditions, that had been completely cured by this daring mode of treatment.

Dr. Ball accomplished at one sitting, or treatment, that which Dr. Smith achieved by gradual steps. The one gave to the operation an extensive field of application, the other a limited one. The method as practiced by Dr. Ball, with variations of devices and technique, and its indications as presented in his paper, have received the sanction of all who have practiced it sufficiently to judge of its merits.

Its utility and worth is fully recognized by the daily practice of such men as Goodell, Wiley, Marcy, Silinger, Schultze, of Jenna, and others too numerous to mention.

Almost without exception those who have had extensive experience in this method of treating mechanical dysmenorrhea and the

inflammatory states of the uterus originating therefrom, speak in the most encouraging manner of its efficacy and safety, whilst its chief opponents are to be found opposing it upon merely theoretical grounds, and not because of any adverse experience in its practice.

The practical ends of most cases of forcible dilatation can be met by one of two degrees of dilatation, viz., dilatation to a moderate extent, sufficiently to permanently increase a cervical canal of relatively moderate insufficiency to admit of the use of the curette, of the ready and efficient application of remedies to the endo-metrium and cervical mucus lining, to facilitate explorations of the uterine cavity, etc.

This method of dilatation I daily practice at my office.

The second degree is that of divulsion, which always presupposes the use of ether or chloroform. Its chief indication is to be found in the curve of flexions, and conditions incident thereto, the ready and thorough exploration of the uterine cavity for diagnostic purposes, and to facilitate the removal therefrom of tumors, growths, etc., the relief of conical and elongated cervix, stricture and consequent sterility.

Before detailing the minutæ of my method of procedure, in using rapid dilatation, it may be well to remind you in a general and cursory manner, of the modes of treatment in general use, for the relief of those forms of mechanical dysmenorrhea, involving a diminution or interruption to a greater or less extent, of the uterine or cervical canal.

The generally recognized treatment for a number of years since, has consisted in either dilatation or incision. The method of dilatation, gradual and rapid, the means of the former sounds, specula, tents, sponge, sea tangle, and tupelo, the means of the latter, expanding instruments, Ellinger's Wiley's, Schultze's, Sims', Wathen's, and others. Incisions are practiced after the method of Simpson, by means of the

Hysterotome, or that of Sims, or the combined method.

The unsatisfactory results from the use of sounds, their failure to effect continued perviousness of the canal, has caused them to be well nigh discarded in this connection.

Tents are still used to a considerable extent notwithstanding the fact that they are sadly disappointing in results sought for, a common feature of failure with them all is, a want of permanency of the dilatation accomplished. Their action is slow, tedious and uncertain, involving much loss of time, with very little, if any, compensating advantage.

The sponge tent as a dilatating agent, is the most efficient of its class; at the same time the most dangerous, because of its liability to be followed by septicæmia—a result that has followed in an uncomfortably large number of instances, notwithstanding the indulgence of much ingenuity in their antiseptic construction and use.

Incisions are wrong in principle, in some instances necessarily uncertain in extent of tissue divided, more or less dangerous, and unless immediately followed by the plug or stem pessary, or the daily use of the bougie or dressing-forceps, utterly fail of their purpose.

From practical observation and experience, I have become fully committed to the propriety, wisdom and efficiency of rapid dilatation, for the relief of all forms of what might appropriately be termed obstructive dysmenorrhea, conditions embraced in stricture, conical cervix, flexions, etc. (there are those who advance extravagant claims for electricity, in the treatment of the conditions that I have enumerated; I regard it as an important subsidiary agent, but as a principal agent of treatment I do not believe that it is comparable to divulsion, in the correction of strongly established flexions), I regard it as a most important means to the efficient treatment of endo-metritis, and of paramount value in the relief of that hitherto most obstinate and persistent disease,

endo-cervicitis, I believe it to be the only rational and successful means of radically curing firmly established flexions; certainly it is the only means that has accomplished that end in my hands.

In practicing forcible dilatation, to a moderate extent, no anæsthetic is required; perfect antiseptic precautions should be observed, exercise immediately thereafter to a moderate extent, should be prohibited.

The method that I pursue in practicing dilatation in the second degree, that of divulsion, is the following: Having previously, by careful examination, excluded the possibility of any extra-uterine inflammation, or condition, neoplasm, etc., that might contra-indicate the measure.

Regard having been given to the proper evacuation of the bowels and bladder, and all needed instruments immersed and kept in a five per cent. solution of carbolic acid pending the operation, pledgets of absorbent cotton, pressed out of a bi-chloride solution one to two thousand, just ready, the patient being thoroughly etherized, is placed in the Sims' position. The vulva and surrounding parts are sponged off with the solution bi-chlor one to two thousand, a Sims' speculum being introduced, the vagina, cervical and uterine canal are thoroughly cleansed with the bi-chlor solution; the anterior lip of the cervix is seized with a double-hooked tenaculum, and drawn down toward the vulva, then taking in hand a Wiley-Sims dilator, such as I show you, I dip its blades in pure carbolic acid, and having shaken off any excess of acid, I enter them into the cervical canal, and dilate sufficiently to readily admit of the introduction of the Sims' dilator, which I prefer at this stage, for the reason that the dilatation can, by its use, be regulated more easily as to duration, and its extent accurately determined.

The advantage of the Wiley-Sims' dilator consists in its more ready introduction into a distorted canal, in consequence of its small point, and curved direction. I usu-

ally consume from ten minutes to a half hour in accomplishing the divulsion, the degree of resistance determining largely the length of time.

The dilator removed, should there exist endo-cervicitis, as is usually the case, with a Sims instrument, I thoroughly curette the mucus lining of the cervix, and then with the bi-chlore solution, I again cleanse the genital tract and taking from a solution of pure carbolic acid one of Wiley's hard rubber plugs of suitable length and size, I pass it into the dilated passage, and secure its retention by means of antiseptic tampons.

Should no untoward symptom arise, this plug is left in for forty-eight hours, at the expiration of which time it is removed, and the entire genital passage antiseptically cleansed, and another similar plug introduced, the same antiseptic precautions being observed as previously, and this course is continued for one week. The plug is then left out for several days, after which it is re-introduced with the same precautions as before, and worn for twenty-four hours, and so on until the approach of the second menstruation following the operation. The use of the plug is intermitted during the menstrual flow, reference to which should determine the time of the operation.

The patient during all the time that the plug is worn, is confined to her bed, and most invariably assumes the dorsal position, it being the most comfortable. Her diet is light and simple, during the first week; for the first two or three days after the operation the bowels are confined and the water drawn off. An opiate enema is administered should the occurrence of pain require it, though the amount of pain complained of is usually inconsiderable.

RATIONALE: It is not difficult to understand the rationale of this procedure in the treatment of stricture of the cervix, whether it be congenital or acquired, for by it we tear asunder the circular muscular fibers of the cervix, we rupture them at various points, influenced by their various

attachments and relations, one set of muscles here, another there, and so on throughout their whole distribution, rather than at some fixed and definite line as in the case of the incision.

If the circular fibers of the cervix all acted from the same fixed point, there could not exist the objection to the practice of incision, that I entertain, and I believe very justly.

By incision, injury is done to the longitudinal as well as to the circular muscular fibers; by dilatation, the integrity of the circular fibres is interrupted at various points, whilst that of the longitudinal fibers being unaffected is exerted in shortening the cervix and increasing its traverse diameter.

And practically this is just what I have observed after divulsing a conical, narrow and elongated cervix. It is not necessary to amputate any portion of such a cervix, as has been improperly taught, divulsion accomplishes its normal shape and function. The immediate agency of dilatation in the treatment of endo-cervicitis, has already been sufficiently indicated; its mediate effects lie in removing the stricture or flexion of which the endo-cervicitis is the result.

In treating of the *modus operandi* of divulsion in curing flexions, I do not think it necessary or essential that I should enter into any extended consideration of the subject of flexions; suffice it to say that I regard flexions and distortions as consequences of mal-nutrition of the uterus, occasioned by some infirmity or depravity of the general system; or the result of some local agency, uterine or extra-uterine, involving an embarrassment of the nervous or vascular supply of the uterus, or possibly implicating both the nervous and vascular elements.

As specially pointed out by Graily-Hewett, mal-nutrition of the uterus, is manifested by undue softness of its walls, the impairment of the condition of the tissues, re-

sults in a loss of that normal healthy rigidity of the walls of the uterus, by virtue of which it preserves its shape and form amid the buffeting of surrounding organs.

If, during the period of uterine ranolence, the isthmus be fixed by utero sacral cellulitis, a moderate excess of intra-abdominal pressure, will occasion anti-flexion, or if there be fixation of the cervix by the bladder systole, with a position of the uterus favoring retroversion, excessive intra-abdominal pressure will produce retroflexion. Fixation of the cervix, as indicated by D. Berry Hart, is almost as essential in the dynamics of flexion.

The uterus, having once lost its physiological form, flexion having occurred is unable, by any inherent capacity, to effect its own restitution; and when in the course of events, there comes a repair of the vascular and trophic lesions, that lead to the undue softness and pliability of its walls, and in consequence there is substituted their physiological firmness, condensation and tonicity throughout, except in certain parts immediately engaged in the flexions; then will be appreciated the anomalous fact that the conditions of health entail a perpetuation of the consequence of disease.

The indications, then, for the cure of an established flexion, will be found to consist in the re-establishment of the physiological state of the uterine walls throughout, and this can be accomplished more readily, certainly and effectually by the treatment that I have indicated, than by any other means that I know of.

By means of it we break up all adhesions, we straighten the canal, we change the muscular tissues at the point of flexion, from an abnormal to a normal state; we establish the circulation upon a new and uninterrupted basis, by it we span the breach of nutrition, which led to the flexion, with its chain of pathological consequences, and we release our patient from her protean ills.

CANCER OF THE UTERUS.

BY

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M.D.

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Diseases of Women and
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tucky School of
Medicine.*

Remarks to the Mitchell
District Medical Society, at
Seymour, Indiana, Decem-
ber 16, 1887.

I have prepared no paper for this occasion, as I came a guest to your Society to listen and to learn and not to consume your valuable time in reading or discussing papers, and at your courteous request I beg your attention a

few minutes to speak of that painful and fatal disease—cancer, but more especially of cancer as seen and treated by the gynecologist. I have given this subject a great deal of thought, and while in Washington in September attending the sessions of the Ninth International Medical Congress, I had the pleasure of listening to two exhaustive papers on hysterectomy in cancer of the uterus, by my friends, Professors August Martin, of Berlin, and A. Reeves Jackson, of Chicago. Professor Martin is probably the best living authority on this subject, having removed the uterus for cancer and other pathological conditions about 200 times.

I was then, as I have often been, impressed with the important fact that we fail to recognize cancer of the uterus in its early stages, or at least, fail to operate for its removal until there is a strong probability that the adjacent structures have become involved, or the system so empoisoned with the cancerous cachexia that it is impossible to get successful results. Hence the criticism that the medical profession has discovered no means to cure or benefit a patient with this loathsome disease. I confess that my treatment of uterine cancer has not pleased me, but nearly all these patients were referred to me when the disease had extended to surrounding tissues, so that surgical interference, for radical removal, was contra-indicated.

I have often been called in consultation in cancer of the uterus to consider the propriety of hysterectomy where the disease

had involved the vagina, bladder, the cellular and peritoneal tissues, and the pelvic glands, with well marked systemic infection. My special desire is to impress upon the members of this Society, and the medical profession, the *vital* importance of an early diagnosis in cancer, so that the growth may be extirpated in its entirety. If it be true, as thought by many eminent living authorities, that cancer is primarily a local disease, then if it be *completely* removed before constitutional infection, it would probably not return. This conclusion is in harmony with the practical experience of such distinguished surgeons as Gross, Vichow, Billroth, Erichsen, Hutchenson, Bryant, etc.

There is a relative progressive increase in the frequency of cancer, but the progressive number of cures is in a more rapid ratio than the increase of frequency of the disease. The vital statistics of the census of the United States, and the reports of the Registrar General of England, show that the relative increase in cancer in the last 40 years exceeds 50 per cent. So it behooves us to bestir ourselves to discover means of prevention or of successful treatment.

But in considering the question of prevention, we are reminded that the means which tend to prevent most diseases, cannot be relied upon in cancer. It is not hereditary. It is not contagious; nor does it appear that filth, or bad sanitary and hygienic surroundings predispose to its development, for it is most frequently seen in the higher walks of life, and in those localities where civilization is best developed. Just here, let me remind you of the remarkable coincidence, where malignant disease developed in nearly the same locality in three of the most distinguished men of three great nations, viz: General Grant, who died of cancer of the tongue and throat; the Crown Prince of Prussia, who is supposed to have cancer of the larynx; and Don Ferdinand, ex King of Portugal, who has cancer of the tongue.

The negro has cancer less frequently than the white man, and the poor and ignorant people who live in filth and whose food is neither abundant or nutritious, are less disposed to the disease than their more cultured and æsthetic neighbors who live in affluence.

We have no medicine that will cure cancer, and the only rational treatment in malignant disease of the uterus is total extirpation by supra-vaginal amputation of the cervix uteri, or by vaginal or abdominal hysterectomy before the disease has involved any surrounding structure, or the system. But these operations are difficult and dangerous, and should not be attempted except by an expert operator who is practically familiar with the anatomy of the pelvic and abdominal organs and with the technique of the operation, and has all the facilities to enable him to operate successfully.

WESLEY M.

CARPENTER

DEAD.

Wesley M. Carpenter, M. D., editor of the *Quarterly Epitome of American Medical Literature*, and one of

the editorial staff of the *Medical Record*, died suddenly during the night of January 7, unattended. He was born at Erieville, New York, 1839, and graduated at the College of Physicians and Surgeons, N. Y., 1863. In 1882 Dr. Carpenter published a Handbook of the Practice of Medicine. The stenographic reports of the annual meetings of the American Medical Association, in the *Medical Record*, have, for many years, been in many respects far more accurate than those contained in the official organ of the Society. *The Record's* report of the Ninth International Medical Congress has elicited universal commendation. To Dr. Carpenter's superior ability and prevering industry the profession is indebted for these reports. Post mortem examination revealed Bright's Disease as the cause of death.

PATHOLOGY AND HYGIENE.

EPIDEMICS.

BY

GEO. M. STERNBERG,

M. D.,

Maj. and Surgeon, U. S. Army.

An address to the American Public Health Association at Memphis, Nov. 8, '87.

[CONCLUDED.]

The most curious part of the story is that I was informed that the bucket had been lowered between decks to disinfect a lot of hides which were stored in the hold. What was the object of this "disinfection?" Evidently not to dis-

infect, for no one at the present day would think of maintaining that the hides in the hold had been disinfected by the procedure of the man with the jug.

The only object that I can conceive of depends upon the fact that there is a fee for disinfecting, which must be paid by the agents of the ship; at least I was so informed by one of the officers of the ship.

Gentlemen, we can not control the action of sanitary authorities abroad, and if we are ever so unfortunate as to be thrown into a lazaretto in one of those countries where the rights of the individual are counted as nothing, God pity us! for the fact that we are American citizens will be of no avail. But we can at least correct abuses, if such exist, at our own seaports, and set an example to other nations of an enlightened policy, which will not only redound to our credit, but will directly benefit our languishing commerce. The most enlightened nations of Europe recognize the importance of a uniform system of quarantine administration, based upon past experience and recent progress in sanitary science; and this has been one of the principal objects in view in the assembling of expert delegates from the various countries interested for international sanitary conferences.

The first international conference was that of Paris in 1852. A second sanitary conference assembled in the same country in 1859 for the purpose of revising and simplifying the conclusions adopted in 1852; the next

conference was that of Constantinople in 1866, and, this like the last conference assembled in Rome in 1885, at the call of the Italian government, followed immediately after an epidemic of cholera, and had special reference to the restriction of this disease. The conference at Vienna followed in 1874, and that of Washington in 1881. The latter, following after our yellow fever epidemics of 1878 and 1879, had the special object in view of establishing an international system of notification of the appearance of epidemic disease in all parts of the civilized world, and of the sanitary condition of seaport cities, and especially of ships sailing from infected ports.

Unfortunately all attempts to establish an international code of quarantine regulations have thus far failed, owing to the very diverse opinions held by the delegates from the several nations who have been assembled for this purpose, and to the conflicting interests of some of the great powers. While as a nation we have taken part in these sanitary conferences, and have advocated an enlightened and uniform policy of quarantine administration, and international notification of infectious diseases, we have as yet no uniformity in the quarantine regulations of our own seaport cities, and no central health bureau. Gentlemen, it is well for us to consider these matters, and to point out to our legislators the present unsatisfactory condition of affairs with reference to the subjects referred to.

As I have already intimated, the exotic pestilential diseases to which I have referred are the levers which move corporations to make necessary sanitary improvements. But for sanitarians, aside from their effect in this way, they are of secondary importance. The number of victims which they claim is a small matter compared with the number who succumb to certain indiginous or naturalized infectious diseases, which are equally subject to control by well known sanitary measures. The chief aim of the American Public Health Association should be to ascertain what measures are most effectual for the restriction of

these epidemic maladies, such as typhoid fever and the malarial fevers, and for the banishment of all diseases in which the contagion is given off from the persons of the sick, such as scarlet fever and small-pox. So far as the diseases of the class last mentioned are concerned we may safely say, that we know how they may be banished from a community, viz., by isolation of the sick and disinfection of all infectuous material, and in the case of small-pox by vaccination. Our main mission, therefore, is to insist upon the thorough execution of these measures.

But our mission does not cease here. We have not only to teach the American public how to guard against infectious diseases by quarantine restrictions, isolation of the sick, disinfection and municipal sanitation, but also to teach them the principles of personal hygiene. Not only will their individual susceptibility in the presence of an epidemic depend largely upon their personal habits and mode of life, but we must show them how often organic and functional diseases of the various organs essential to life are induced by excesses in diet, improper food, the habitual use of spirituous liquors, etc. I conceive that a most important part of our work in the future should consist in popularizing information of this kind. The noble example set by our generous colleague, Mr. Lomb, of Rochester, should be followed by our association if its finances permit, or at least we should present the subject to philanthropists who, like Mr. Lomb, may desire to be guided by our counsel in their efforts to do good to their fellow men. As a matter of fact our limited means will not justify us in offering prizes for essays on sanitary subjects, and the most that we can afford is to print and distribute at cost such essays as may seem suitable for popular distribution.

In another direction, however, we may accomplish much good with comparatively small amounts of money, whenever our treasury will admit of it. I refer to special investigations in sanitary science, committed to expert investigators, who are willing to

devote their time to the work, and who would ask only for such sums as might be necessary to cover the actual expenditures for apparatus, material, etc.

The exact knowledge which has been obtained during the last decade, with reference to the etiology of the infectious diseases, has been promptly applied in a practical way by sanitarians; and every addition to our knowledge in this direction is of the greatest importance to sanitary science, which, so far as we can see, will reap far more benefit from an exact knowledge with reference to the essential characters of each specific disease germ than can be hoped for by the clinician.

It is not creditable to us as a nation that so small a share of the progress in this direction is due to American investigators. In the absence of any department of the national government having the power and disposition to support investigation in this field of science, the few who have pursued bacteriological studies in this country have worked under disadvantages, which were not only discouraging, but absolutely incompatible with the most efficient work and fruitful results. But the future is more hopeful. Individual munificence, in several of our large cities, has supplied the means, which should have been provided long since by the national government, for pursuing investigations in bacteriology and in experimental pathology.

In Baltimore we have a well equipped bacteriological laboratory, under the direction of the able professor of pathology of the Johns Hopkins university. In New York, Boston, Philadelphia, and, I believe, in several other cities, bacteriological laboratories have been established in connection with well known medical schools.

In Brooklyn the Hoagland laboratory now in process of construction, under the immediate supervision of the gentleman who provides all of the funds required for the building and its equipment, will supply all of the facilities, both for students and for advanced

investigators, which can be found in the best equipped laboratories in Europe. I am informed also that our colleagues from the State of Michigan, who are always in the front rank in urging upon their legislature measures which will advance the sanitary interests of the state, have secured the establishment of a bacteriological laboratory in that state. We have to thank one of our colleagues from the state mentioned for a most important discovery in the field of sanitary science. I refer to the discovery of tyrotoxicon by Prof. Vaughan. With a well equipped laboratory under his direction there is good reason to believe that this discovery, so creditable to American science, would not stand alone to the credit of the good State of Michigan.

Our association has already taken the initiative in encouraging and assisting from its slender treasury investigations in sanitary science. The committee on disinfectants, appointed at the St. Louis meeting in 1884, has made an extended experimental research with reference to the value of various agents for the destruction of disease germs. The final report of this committee will be submitted at the present meeting. I say final, because, in my judgment, all the necessary data are now at hand for determining the agents most useful for disinfecting purposes under various circumstances, and I think the conclusion of the committee may be accepted as a safe guide for future practice. It is true that more work can be done to advantage in this direction, and it will be desirable to test from time to time new agents which may be suggested for disinfecting purposes; but the main object of the association has been accomplished, and we now know what agents can be relied upon for the destruction of disease germs of various kinds, and in what proportion these agents must be used to be efficient.

In consideration of the limited means at our disposal for the encouragement of sanitary problems, I would suggest that the association raise a special fund for this pur-

poses by calling for contributions from its members and from others who may be willing to aid us in our efforts in this direction. If you approve of this suggestion, I trust that some member will introduce the necessary resolutions.

One of the subjects which might be taken up by a committee appointed for the purpose, and aided from this special fund, would be biological investigation of the water supply of towns and cities of the United States. Evidently such an investigation would be a protracted one, and it would be advisable to begin with those towns which have a notoriously bad water supply. Perhaps it could be arranged that a portion of the expense, at least, would be paid by the town or city whose water supply was examined, the inhabitants of such town or city would be especially interested in the results of the investigation.

Another question of the greatest interest to us is that which relates to the possibility of protecting individuals from fatal infectious disease by inoculation with an attenuated virus.

Protection from small-pox is no longer a solitary instance of prophylaxis by inoculation. In anthrax, in swine plague (rouget) and in pleuro-pneumonia, protective inoculations have been practiced upon a large scale, and the value of the method is fully demonstrated. The evidence in favor of Pasteur's inoculations for the prevention of hydrophobia is such that we can scarcely doubt that it has a relative virtue, notwithstanding the considerable number of deaths which have occurred among those who have been inoculated. The recent report of the English commission, made after a thorough investigation, is favorable to the method, which may, perhaps, hereafter be modified so as to give still better results.

In the various infectious diseases of the lower animals which have been studied during recent years, including those forms of septicæmia which are only known to us by laboratory experiments, we have much

evidence that protective inoculations with an attenuated virus may be successfully practiced. And there is good reason to hope that in all diseases in which a single attack protects from future attacks, protective inoculations may be practiced when once we have succeeded in isolating and cultivating outside of the body the specific infectious agent. We know, already, four methods by which the virulent potency of disease germs may be attenuated, viz., by exposure to oxygen, by exposure to heat, by exposure to the action of certain chemical agents and by passing through the body of certain animals.

The last mentioned method is that practiced by Pasteur in attenuating the virus of rouget. He finds that the virulence of the microbe is diminished by passing it through a series of rabbits, and that by this means an attenuated virus suitable for protective inoculations in swine may be obtained.

The possibility of attenuating a virus by exposure to the action of certain chemical agents was discovered by myself in 1881, in the course of a series of experiments upon disinfectants, in which the virus used was the blood of a rabbit, just dead, and containing the micrococcus found in the buccal secretions of man, which I have named *M. Pasteuri*.

Among the diseases in which there is good reason to hope that a method of prophylaxis by inoculations with an attenuated virus might be successfully practiced, if we could once succeed in isolating and cultivating the specific germ of the disease, is yellow fever, a disease in which, as a rule, a single attack protects.

As you know, it has been claimed both by Dr. Domingoes Freire, of Brazil, and by Dr. Carmona V. Valle, of Mexico, that the yellow fever germ is discovered, and that a method of prophylaxis by inoculation has been experimentally demonstrated. As I have just returned from a special mission, the object of which was to investigate the claims of these gentlemen, you will naturally expect to hear from me at this time with reference

to the results of my investigations. I regret to say that I am unable to gratify you in this natural expectation. My orders explicitly directed me "not to make publication of my investigations and of the conclusions reached by me," until I have submitted my final report to the President of the United States.

I have already occupied so much time in speaking of matters which I consider of prime importance that I cannot attempt to make any general review of recent bacteriological researches which have a bearing upon public hygiene. As a matter of fact, all additions to our knowledge of pathogenic micro-organisms are of special importance to us as sanitarians, and it is now generally recognized that the only safe basis for practical sanitation is that which is afforded by an exact knowledge of the etiology of infectious diseases, and of the biological characters of the specific infectious agent in these diseases. Since the importance of these studies has been generally recognized, and the methods of research have been perfected, the number of trained workers has rapidly increased, and at present the greatest activity prevails in the laboratories of Europe. This is shown by the number of memoirs relating to experimental investigation made in this department of science which are constantly appearing in the journals devoted to medicine and hygiene in all parts of the world, but especially in Germany, in France, and in Italy. The *Jahresbericht*, of Baumgarten, for the year 1886, contains abstracts of 533 papers relating to micro-organisms. With reference to cholera, I may say to you that recent researches give support to the conclusions of Koch as to the pathogenic role in this disease of the spirillum discovered by him in the intestines of cholera patients. Its constant presence in this disease seems to be demonstrated, and it is now generally admitted by bacteriologists that there are definite characters by which it may be distinguished from similar organisms obtained from other sources, such as the Finkler-

Prior spirillum and the cheese spirillum of Deneke, which closely resemble it.

Lustig, director of the cholera hospitals at Trieste, examined the dejecta in 170 cases of cholera and found the spirillum of Koch in every case; on the other hand the bacillus of Emerich was only found in forty out of the whole number of cases examined; Tizzoni and Cattani also found Koch's spirillum in the contents of the intestine in twenty-four cases examined by them during the epidemic at Bologna in 1886. At Padua, also, researches made by Canestrini and Morpurgo gave the same result, the spirillum was constantly found in the dejecta in recent cases. These observers state that the cholera spirillum retains its motility and reproductive power for a considerable time in sterilized distilled water. They were able to obtain cultures after two months from such water. This important fact has been verified by Pfeiffer, who found, however, that in the presence of common saprophytic bacteria the cholera microbe soon died out. Hueppe has shown that the cholera spirillum forms reproductive elements which he calls arthrospores. These are not so readily destroyed by dessication as are the fresh bacilli, but they have nothing like the resisting power to heat and chemical agents which characterizes the endogenous spores of the bacilli. The exact proportion in which various disinfecting agents are destructive of the vitality of the cholera spirilla has now been determined with great precision, and will be stated, in detail, in the report of the committee on disinfectants for the present year. This committee has also made extended experiments of the same kind, in which the typhoid bacillus and various other pathogenic organisms have served as the test of germicide power. The chemical products developed in cultures as a result of the vital activity of the cholera spirillum have been studied by Bitter, Buchner and Contani. The last named author claims to have demonstrated the presence of a poisonous

ptomaine in cholera cultures which, when injected into the peritoneal cavity of dogs, gives rise to symptoms resembling those of cholera. A recent observation of value is that of Bujwid, who finds that bouillion cultures of the cholera spirillum have a peculiar chemical reaction by which they may be distinguished. According to this author the addition of a 5-10 per cent. solution of hydrochloric acid to such a culture gives rise, within a few minutes, to a rose-violet color, which subsequently, when exposed to light, changes to a brownish shade. The reaction does not occur in impure cultures. The Finkler-Prior spirillum is said to give a similar reaction after a longer time, but the color first developed is of a more brownish hue.

The question of the etiological role and biological characters of the typhoid bacillus discovered by Eberth in 1880 has occupied numerous bacteriologists during the past year, and very important additions have been made to our knowledge with reference to this organism. The researches of Beumer and Peipea, of Seitz, and of Frankel and Simmonds are especially worthy of notice, but time will not permit me to give an abstract of the results reached by these and other investigators. I can only say in a general way that the earlier researches of Eberth, Koch and Gaffky are confirmed as regards the presence of this bacillus in the intestinal glands, the spleen and other organs in typhoid cases, and that very little doubt exists among bacteriologists as to the etiological relation of this organism to the disease in question, although no satisfactory proof by inoculations in lower animals has yet been found. This, however, is not surprising, inasmuch as we have no evidence that any of the animals experimented upon are liable to contract the disease, as man does, by drinking contaminated water.

According to Wolffhugel and Riedel, the typhoid bacillus and various other pathogenic organisms tested, retain their vitality for a long time when preserved in ordinary

well or hydrant water, and even undergo a considerable development in such water. Frankland, also, has found that certain pathogenic bacteria tested by him increased rapidly in numbers in the water of the Thames, and even in distilled water. Meade Bolton, on the other hand, found that micrococcus tetragonus, staphylococcus aureus, the typhoid bacillus and the anthrax bacillus not only did not increase in number in sterilized water, but soon perished, while certain non-pathogenic species commonly found in water increased rapidly in numbers in sterilized distilled water. A more recent research is that of Kraus, who employed well water and hydrant water from the city water-works of Munich, which, without being sterilized, was infected with pure cultures of various pathogenic organisms diluted with distilled water. The infected water was kept during the experiment at a temperature of $10\frac{1}{2}^{\circ}\text{C}$. Plate cultures were made from day to day. The results were as follows: The typhoid bacillus had disappeared by the seventh day, the cholera spirillum could not be found in the plate cultures after the second day, the anthrax bacillus had disappeared at the end of four days, in the meantime the ordinary water organisms had increased enormously in number. From these experiments, considered in connection with those of Bolton and Wolffhugel, Kraus concludes that the rapid destruction of pathogenic bacteria in non-sterilized water is a direct result of the action of ordinary water organisms. If this be true, it is evident that these water bacteria are conservative from a sanitary point of view, and that the biological test of drinking water which gives the number of colonies which are obtained from a given quantity has no special value in the absence of an exact statement of the kind of bacteria and their pathogenic potency. The time has come when we must demand that those who undertake the biological examination of water, with reference to its potability, shall give some more definite information

than that a certain number of colonies were found, some of which liquified gelatine and some did not. Up to the present time we have but few instances of the finding of known pathogenic bacteria in water used for drinking purposes. Koch found his spirillum in a water-tank in India, and several observers have reported the finding of the typhoid bacillus in drinking water. Recently Beumer examined the water of four wells in a vicinity where cases of typhoid fever had repeatedly occurred. From one of these wells colonies were obtained by the plate method which proved to have all of the characters of typhoid bacillus. The distinguished German chemist, Brieger, has succeeded in obtaining a toxic ptomaine from cultures of the typhoid bacillus which has the composition $C_7, H_{17}, N O_2$.

The question of the etiology of croupous pneumonia has received much attention during the past year, and it is now evident that the bacillus of Friedlander, which has been cultivated for some years in the laboratories of Europe, under the name of "pneumococens," is not entitled to this distinctive appellation. On the other hand, evidence is accumulating that a micrococcus, which I have described under the name of *M. Pasteuri*, and which is found in normal human saliva, is far more frequently found in the exudate into the alveoli during the acute stage of croupous pneumonia than is that of Friedlander. I first experimented with this micrococcus in 1880, and isolated it in pure cultures in 1881, but it was not until January, 1885, that I discovered its presence in pneumonic sputum and made inoculations in rabbits with this material.

The record of my first successful experiment, published in the *American Journal of the Medical Sciences*, for October, 1885, is as follows: "January 2, 1885. Inoculated two rabbits subcutaneously with pneumonic sputum, collected with great care by my friend, Dr. Rohe, and brought to me at once, from a white male patient, aged nineteen, in the seventh day of illness, second

day of bloody expectoration. Both rabbits were found dead on the morning of January 4. In both, the pathological appearances were identical with those constantly observed by me in rabbits killed by the subcutaneous injection of my own saliva, viz.: Extensive inflammatory oedema extending from point of injection, enlarged spleen, and presence of oval micrococci in blood and in effused serum in the subcutaneous connective tissue." In the same paper I say:

"It seems extremely probable that this micrococcus is concerned in the etiology of croupous pneumonia, and that the infectious nature of this disease is due to its presence in the fibrinous exudate into the pulmonary alveoli.

But this cannot be considered as definitely established by the experiments which have thus far been made upon the lower animals. The constant presence of this micrococcus in the buccal secretions of healthy persons indicates that some other factor is required for the development of an attack of pneumonia; and it seems probable that this other factor acts by reducing the vital resisting power of the pulmonary tissues, and thus making them vulnerable to the attacks of the microbe. This supposition enables us to account for the development of the numerous cases of pneumonia which cannot be traced to infection from without. The germ being always present, auto-infection is liable to occur when from alcoholism, sewer gas poisoning, crowd poisoning, or any other depressing agency, the vitality of the tissues is reduced below the resisting point. We may suppose, also, that a reflex vaso-motor paralysis, affecting a single lobe of the lung, for example, and induced by exposure to cold, may so reduce the resisting power of the pulmonary tissues as to permit this micrococcus to produce its characteristic effects.

Again, we may suppose that a person, whose vital resisting power is reduced by any of the causes mentioned, may be at-

attacked by pneumonia from external infection with material containing a pathogenic variety of this micrococcus, having a potency, permanent or acquired, greater than that possessed by the same organism in normal buccal secretions."

The extended researches of Frankel and of Weichselbaum show that this micrococcus is very commonly, if not constantly, present in the exudate of croupous pneumonias, and both of these investigators are inclined to attribute to it a specific pathogenic role in connection with the malady in question. Frankel's first paper was published in 1886. In this paper he says:

"Among the most important investigations of the past year are those of Councilman, of Baltimore, and Osler, of Philadelphia, with reference to the presence of micro-organisms in the blood of malarial fever patients. Both of these observers confirm the discovery of Laveran, who in 1880 announced, as the result of extended researches made in Algeria, that blood drawn from the finger of such patients during a febrile proxism contains a parasitic infusorium, which presents itself in different phases of development, and which in a certain proportion of the cases was observed as an actively motile flagellate organism. Osler and Councilman have found all of the forms described by Laveran, and the last named observer reports that in recent researches in which blood was obtained directly from the spleen the flagellate form was almost constantly found. Whether the amœboid "plasmodium" found by Marchiafava and Celli, of Rome, represents an early stage in the development of this organism, or whether it simply represents a change in the red blood corpuscles, which occurs also in other diseases, as is claimed by Mosso, has not yet been definitely determined. It is somewhat curious that just when we are receiving satisfactory evidence of the parasite of Laveran in the blood of malarial fever patients, the bacillus of Klebs and Tomassi-Crudelli, which appeared to be dead and buried, has

again been introduced to our notice by the distinguished German Botanist, Ferdinand Cohn. In his paper, published in June last, he gives an account of the researches of a young physician named Schiavuzzi, who has made researches in the vicinity of Pola, a malarial region in Austria. The method followed was that of Klebs and Tomassi-Crudelli, viz: Examination of the air and water in malarial localities and inoculation experiments in rabbits."

The bacillus was constantly found in the air, and the rabbits inoculated presented symptoms and pathological lessons believed to be identical with those of malarial fever in man. I cannot at the present time go into a critical discussion of the evidence presented, but would refer you to an experimental research made by myself in New Orleans in the summer of 1880, in which I repeated the experiments of Klebs and Tomassi-Crudelli, and arrived at the following general conclusions:

"Finally, as regards the relative frequency of the two hitherto investigated microbes in cases of pneumonia, no positive statement can yet be made. Nevertheless, I am inclined to regard the lancet shaped pneumonia coccus, which is identical with the microbe of sputum-septicæmia, as the more frequent and the usual infectious agent of pneumonia, on the ground that this organism is so much more frequently found in the sputum pneumonic patients than in that of healthy individuals. This conclusion is further supported by the circumstance that it has not hitherto been possible to isolate directly from the rusty sputum Friedlander's bacillus."

Weichselbaum reports that he has found this organism in ninety-four cases of pneumonia, eighty of which were primary and fourteen secondary. On the contrary, he only found Friedlander's bacillus in nine cases. In three of these cases it was associated with the diplococcus above referred to, and only three instances was it obtained alone in pure cultures.

Weichselbaum arrives at the conclusion that pneumonia may be induced by several different organisms, but that the diplococcus, which I have called *M. Pasteuri*, a name, by the way, which none of the German authors have been willing to accept, is by far the most frequent cause of genuine croupous pneumonia.

Whatever may be the final conclusion with reference to the specific etiological role of this or other micro-organisms in pneumonia, we must recognize the importance of secondary causes which control the epidemic and epidemic prevalence of the disease, and these have recently been worked out in a very satisfactory manner by a distinguished member of our association, Dr. Baker, of Michigan.

Among the organisms found upon the surface of swamp mud near New Orleans, in the gutters within the city limits, are some which closely resemble, and perhaps are identical with, the bacillus malaria of Klebs and Tomassi-Crudelli; but there is no satisfactory evidence that these, or any of the other bacterial organisms found in such situations, when injected beneath the skin of a rabbit, give rise to a malarial fever corresponding with the ordinary paludal fevers to which man is subject."

I see no reason to modify the opinion here expressed, notwithstanding the indorsement given by Cohn to the results announced by Schiavuzzi. These researches relating to organisms in the air and water, and experiments on rabbits, especially in the hands of an inexperienced investigator, cannot have any great scientific value in the elucidation of an etiological problem. The sources of possible error are too numerous, and the method is in any case inadequate for the complete solution of the problem. It is essential that the infectious agents, especially one so easily demonstrated as this bacillus, be proved to be present in the blood or tissues of malarial fever patients, and in the absence of such proof, experiments on rabbits and researches in the air of malarial regions can have but

little weight. It may well be that in the swampy districts of warm climates, where malarial fevers prevail, one or more species of bacillus will be found in the air or in the water, which are absent from the drier air and running water of non-malarious uplands, but this is simply an interesting fact in natural history, relating to the distribution of organisms of this class, and by itself cannot be accorded any value in a consideration of the important question of etiology. The method of research pursued by Laveran, by Marchiafava and Celli, by Councilman and by Osler is the true one, and none of these gentlemen have encountered the bacillus of Klebs and Tomassi-Crudelli in their extended researches. On the other hand, they are in accord as to the presence in the blood of a peculiar flagellate organism, and of certain spherical and crescentic bodies, which are believed to represent different stages in the life history of this infusorium.

If time permitted, I would be glad to continue this review of the recent progress made in the interesting field in which I have been for some time an enthusiastic worker, but your patience would be exhausted long before I could reach the end of the story.

The importance attached by the profession to studies of the nature of these referred to is well stated in a recent editorial in the London *Lancet*, relating to the International hygiene congress recently assembled at Vienna. The editor says: "The Vienna meeting will serve the purpose of indicating the necessity of skilled investigation of the causes of disease, and of encouraging statesmen to rely upon work of this character rather than upon collective opinion.

The excellent work which is carried on in the continental laboratories has undoubtedly had its effect in teaching the value of exact knowledge, but there was none the less too great a desire at Vienna to record by resolution the opinion of numbers, regardless of their fitness to exercise any proper judgment upon the points at issue.

BOOKS AND PERIODICALS.

A PRACTICAL
TREATISE ON
MATERIA MEDICA
AND THERA-
PEUTICS.

BY

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nical Medicine in
the same, etc.

*Sixth Edition. Revised
and enlarged. New York:
D. Appleton & Co. 1887.
Cloth. Pages, 802. Price
\$5.00.*

When a text-book on materia medica and therapeutics reaches a sixth edition, it is presumed to have had the confidence of a considerable number of readers. The first edition of Bartholow's *Materia Medica and Therapeutics* was published in 1876. Since that time many important discoveries have been made in every branch of science relating to medicine. Besides, a very large number of additions have been made to the

list of important drugs. It is, therefore, plain an author of a text-book must be a stirring man to keep his book so revised as to be constantly accessible to the student, who must, in the main, rely upon it for at least the basis of his knowledge of the science it teaches.

Prof. Bartholow's work shows, therefore, not only the usual popularity of a generally adopted text-book, but the active and constant interest of its author in the periodical correction and revision of the text. At page 519 appears this: "STENOCARPINE, an alkaloid said to be obtained from the leaves of a tree grown in Louisiana. Since the era of cundurango, and lately of hop alkaloid, suspicion attaches to new remedies not authenticated. A combination of atropine and cocaine, it is asserted, will act in a manner similar to the so-called stenocarpine."

The actions, and uses, are treated in proper order. Clairborne, of New York, *The Medical Record*, and Dr. Herman Knapp, are the authors referred to.

Singularly enough, the source of the so-called stenocarpine is nowhere mentioned in this article; and although the introductory paragraph would naturally create in the mind of the reader some doubt as to the authenticity of the drug named, the fact that it has been seriously treated in almost two whole pages of the work, forces one to the conclusion that Dr. Bartholow inadvertently omitted the usual classification in not stating that the stenocarpine was said to be an alkaloid derived from the *clreditschia triacanthos*.

At page 392, in speaking of acetanilide, Dr. Bartholow says: "It is soluble, to some small extent, in cold water, one part to 160; more soluble in warm water, one part to fifty of water, at 105 degrees Fahrenheit; and dissolving readily in alcohol, in ether, and in chloroform." This sentence is so decidedly awkward as to require reconstruction. The *acidum boricum* is called "boracic acid," instead of boric acid. No wonder it takes a long time to educate the public, when teachers themselves violate established rules both of orthography and orthoepy. The *pharmacopæia* of 1880 adopted *boric acid* as preferable to boracic acid. It eliminated one of the "s's" from *asafoetida*. This Dr. Bartholow observes with punctilious care.

So we feel constrained to say, the deficiencies pointed out in the text, besides many others of a similar character, are so many evidences of the author's confidence in his proof-reader, or of his own carelessness in the matter of revision. It is refreshing to find, however, in the matter of revision no new drug is omitted.

In the clinical index, evidences of the author's thorough knowledge of his subject abound. In therapeutical value this work holds the highest place as a text-book in the schools of the United States; and, so long as the author continues to keep it revised to include the growth of experimental observation, it will continue to hold the first place as a text-book on materia medica.

CORRESPONDENCE AND SOCIETIES.

THE
MITCHELL
DISTRICT
MEDICAL
SOCIETY.

Stated Meeting, held at
Seymour, Indiana, Dec.
15th and 16th, 1887.

Reported for PROGRESS.

The Society was called to order in the First Baptist Church at Seymour, by Dr. G. Q. Orvis, President, in the chair, at 3 P. M., December 15.

On motion of Dr. G. W. Burton, of Mitchell, communicated a written report on the water supply

of Southern Indiana. It embraced much valuable matter, and was ordered published.

Dr. U. H. Hon thought the water supply of Southern Indiana much in need of attention at the hands of the legislative authorities. He felt satisfied eleven cases of fever occurring in his practice, at Paoli, were due to the use of contaminated cistern water. He often finds cases of typhoid fever which it is difficult to account for. Yet upon the hypothesis of a contaminated water supply, it seems reasonable to infer, persons casually drinking of such water may become the subjects of an attack of fever, although the water supply of the locality in which the victim resides may be perfectly pure. He feels satisfied no typhoid fever would exist where the water supply is secure from contamination.

Dr. A. M. Gaddy, of Lovett, thought the prevention of disease necessarily involved a study of the surface drainage, and the nature both of contaminated water supply and of the atmosphere. He does not doubt that eight per cent. of infectious diseases are produced by drinking water, yet he is not persuaded that atmospheric conditions are less important factors. In California it has been determined that in some localities defective surface drainage has given rise to wide-spread endemics. There can be little doubt, however, that gases often neutralize some of the most dangerous poisons in surface water. Dysentery oc-

curs in dry and in wet seasons; and it is difficult to account for it upon the hypothesis of an affected water supply.

Dr. S. H. Charleton thought in prolonged dry seasons, hard water was especially liable to contamination. In his opinion, dysentery most frequently prevails in seasons of great drouth, and especially in such localities as are supplied with hard water. Twenty-two years ago his preceptor, Dr. Hale, visited Brownstown during an extensive prevalence of dysentery. Investigation showed that the water in general use was highly charged with carbonate of lime; and to this cause both he and Dr. Hale attributed the presence of dysentery. With the bad water supply of Seymour, however, he considers it a matter of note worthy of importance that dysentery is seldom observed, while fever prevails extensively. He has no doubt that typhoid fever is propagated by contaminated water, as it seems pretty well established the germ must be shallowed to develop an attack.

Dr. Yost said, twenty-five years ago, when he had a case of fever, he did his best to cure it; but now, when he is called to a family in which fever exists, his first steps are directed to the discovery of the possible cause and its removal. In a prolonged dry season, when the water supply is scant, it is bad in both flavor and taste; and it is precisely at this time that typhoid fever and dysentery appear. He had noticed peculiarities in types of dysentery. That which prevailed during the last summer being unusually severe., tending to run a protracted course, the patients, many of them, being affected with extreme nervous prostration.

The Rev. Dr. J. K. Pye said he had given much attention to a study of the water supply of certain localities, especially in the vicinity of the Orphans' Home, Indianapolis. In his opinion the atmosphere had much more to do with the production of disease than the drinking water. He had found large numbers of animalculæ in the

petals of roses, and especially in the catalpa flower. In seasons when the winds were high, the air must be contaminated from all sorts of flowers, but the catalpa flower especially, which is always loaded with animalculæ. He had observed water drawn from very near a privy vault, which, though used for a long time for household purposes, had given rise to no disease whatever. It was his opinion that fevers were almost uniformly due to animalculæ, carried by the atmosphere from plants and flowers.

Dr. Dudley S. Reynolds, of Louisville, felt the scientific interests of the subject should not be sacrificed in the interests of idle speculation. He wished to state first, that the animalcule inhabiting the petals of roses and other flowers were absolutely harmless when swallowed. If any of these should chance to get into the respiratory passages, they soon became enveloped in mucus, and were coughed up and expectorated; or, if they lodged in the nose, they were blown out. He would like to know upon what evidence any one might reasonably conclude the animalculæ of flowers, or even those in stagnant water, might produce disease in man. The bacillus, now universally recognized by experimental pathologists as the cause of typhoid fever, is not an animalculæ but a micro-organism, belonging to the cleft fungi, which, up to the present hour, naturalists and micrologists have not been able to assign to either the animal or vegetable kingdom. It is a small fungus, which grows by cleavage, and is, in no sense, an animalculæ. He feels that no one may now be found so bold as to dispute the fact that typhoid fever is always due to the presence of the *bacillus typhoideus* in the alimentary canal. Not even those cases, so often quoted, of the men who are engaged in removing a dung heap, and who afterwards had the typhoid fever, are believed now by any well informed person to have been due to atmospheric contamination. The outbreak of typhoid fever at Plymouth, Pa., in March and April, 1885,

turned out, upon investigation, to be due to the contamination of the water supply from a mountain spring, which, pouring into a reservoir, was distributed through pipes to a part of the city of Plymouth. In Louisville he had personal opportunity to investigate the nature of the water supply in certain localities where typhoid fever prevailed, and he was able to satisfy himself, if not actually to demonstrate to the most incredulous, that the fever was due to the contamination of the public wells from surface drainage. The microscope in the hands of persons who see animalculæ in stagnant water and in the petals of flowers, will never be able to terrify children who eat roses, nor the young ladies who pin great clusters of catalpa flowers upon their bosoms and inhale the fragrant particles they emit into the air.

Dr. Burton, then closed the discussion by a brief reference to the fact that many preventable diseases are ignored by legislative bodies who spend large sums of money in showy and pretentious buildings, so poorly ventilated as to be little better than dead falls. He feels that the time has come when the medical profession shall unite in demanding reforms in the matter of the drainage of towns and cities, as well as in the ventilation of public buildings.

Prof. Joseph Eastman, of Indianapolis, then read his report of fifty cases of Laparotomy, which, with the discussion it evoked, appears elsewhere in this issue of PROGRESS.

Dr. J. S. Arwine, of Columbus, read an essay on the importance of medical societies, the discussion of which was made the special order for 9 o'clock Friday morning.

On motion the society adjourned until Friday morning, December 16th.

FRIDAY MORNING,
DECEMBER 16.

The Society was called to order by President Orvis.

The discussion of Dr. Arwine's paper being announced, Prof. Cominger, of Indianapolis, said, in looking back over his experi-

ence, he felt able to trace many of the most valuable facts he had ever learned to his membership in medical societies. He noticed as medical societies were encouraged, the feeling of fraternity and good will extended. He wished to thank Dr. Arwine for his thoughtful paper.

Dr. Dudley S. Reynolds said he thought medical society organizations should be more general in the South and West. In his experience, the busiest practitioners in every department were those most constantly in attendance at medical society meetings. He looked upon the medical societies as the means of difusing the most valuable practical knowledge; and, in that way affording more extensive instruction than could possibly be got in any other way. The bare interchange of opinion based upon experience, which, of course is always varied, sn the practice of different individuals, seemed, necessarily, to broaden the views of the members and greatly to improve the practice or medicine. All the clinical instruction of the schools, valuable as it may be, must be rated as inferior to the discussing by men of experience in medical society meetings.

Dr. Joseph Eastman thought the medical societies were not only valuable for interchanges of professional opinions, but for the cultivation of those social relations which bind the profession more closely together.

Dr. J. M. Mathews, of Louisville, said he had been forcibly impressed by the remarks of the gentlemen in discussing Dr. Arwine's paper. He had only one view, however, in the whole matter—that is, do not try to convince the members of the society of the importance of their own work, but rather to convince the outside members of the profession who have not yet felt ready to join the societies. For one, he was willing to engage in the missionary work of converting the heathen, or, in other words, bringing in the outsiders. That, he considered the most important

duty we might discharge towards our fellow-men.

Dr. J. L. Thompson, of Indianapolis, thought the young men in the medical profession, though greatly benefited by membership in societies, might often be able to impart valuable suggestions to their seniors. He did not see how any reputable physician might hope to maintain his standing in an intelligent community and hold himself aloof from the medical societies. He felt the time was near at hand when no physician could be recognized by intelligent people unless he was a member of at least a county society. The district societies were to him like the occurrence of a great feast or jubilee which he might attend at a distance from the scene of his daily labors, and feel entirely free from the annoyance of business calls. He had never known a medical society which did not accomplish some good.

Dr. J. A. Cominger, of Indianapolis, then read a paper on curvature of the spine, which, with the discussion, appears in another part of this issue of PROGRESS.

The President then announced the following committee to select the place for the next meeting: Dr. Dudley S. Reynolds, of Louisville; Dr. B. H. Hon, of Bedford; and Dr. William Rodman, of Brownstown.

At the conclusion of the discussion on Dr. Cominger's paper, Dr. Reynolds, Chairman of the Committee, reported French Lick Springs as the place for the next meeting, the session to begin on the third Thursday of June, 1888.

Dr. J. C. Thompson, of Indianapolis, then read a paper on sympathetic ophthalmia, which, with the discussion, appears elsewhere in this issue of PROGRESS.

It now being 1 o'clock P. M., the Society adjourned for dinner.

At 2:30 P. M., the Society was called to order by Dr. G. Q. Orvis, President, in the chair.

A paper on the extraction of cataract without irridectomy, by S. C. Ayres, M. D., of Cincinnati, was read, which, with

the discussion, appears elsewhere in this issue of PROGRESS.

Dr. George Cook, of Indianapolis, read a paper on the so-called Pockets and Papillæ of the rectum.

In substance, he said: For a number of years the itinerants have been going through the country practising so-called secret methods, for the cure of all rectal diseases. First, they injected piles with carbolic acid, and now they are cutting out the pockets and papillæ of the rectum. The object of this brief paper, is to show that these are a natural formation and *not* lesions, as claimed by the quacks. I have drawn this rough diagram of the anatomy of the rectum, in as far as it relates to these pockets and papillæ, and I think you can readily understand, by inspecting it, the idea I mean to convey. Near the outlet of the rectum there is a number of little ridges, called *columnæ recti*. These connect one to another by mucous membranes, and by this arrangement you will notice little pouches are formed. Between the columns the pouches, the so-called "pockets" are seen. In every healthy rectum these will be found. They are normal structures, and assist in defecation by pouring out mucous, thereby lubricating the parts. Now the itinerants claim that they are very dangerous and destructive; indeed produce every ill that human flesh is heir to, when in fact the removal of them may result in much danger, and future trouble. These men have put on sale a box of instruments, *with instructions*, and every one is asked to call and purchase, and proceed to business. The result is, that men of grossest ignorance of surgery, anatomy, or medicine, make purchases and start on their dangerous mission. In consequence we have such operations by them, followed by excessive hemorrhage, ulceration of the bowel, strictures, fistula, etc.

Persons who were healthy before, are diseased, and by the time the travelling doctor has cut away a portion of the natural gut, pockets his fee, and escaped, the pa-

tient is looking around for some one to heal the damage done. The pockets and papillæ of the rectum are as natural to the parts as the hymen is to the virgin.

Dr. J. M. Mathews said: I regard this paper of Dr. Cook's of inestimable value. It would have been well if it could have been delivered in some public hall, and the laity invited to hear it. What can be more mortifying than that in the nineteenth century, our law is not sufficient to prevent ignorant and designing men from doing such work as Dr. Cook has just depicted. It's a shame upon decency. When the self-same quacks begun their nefarious practice of injecting piles, I took it upon myself to help expose and denounce them. In an article read before the Kentucky State Medical Society in 1879, I predicted; and tried to show in a surgical way, what might be expected. My predictions have been verified. Dr. Andrews, of Chicago, has collected the statistics of 13 deaths, and many terrible results that have followed in their wake, and yet the half is not told. And now that these fellows have been exposed (and much credit is due Dr. Andrews), they are looking around, like vultures, for something to devour, and have hit upon a plan. That plan has just been told you by Dr. Cook. Not content to treat diseases, of which they know nothing, they now turn their attention to cutting away from the bowel that which properly belongs there in a state of health. I have seen the evil result of their ways, in a score of patients who have come to me for *after-treatment*. While the medical profession labors hard to advance itself in the sciences, the laity patronize and court a set of charlatans, whose sole object is to get their money, and the result of their treatment is serious harm. Nay, more, the courts uphold them in their degrading methods, and the legislatures enact laws for their benefit. It looks like a fruitless task to endeavor to even offer advice, and yet we owe it to our manhood to continue the fight against these imposters and their methods.

Dr. W. H. Wathen, of Louisville, then read a paper on cancerous disease of the female genital organs, which, with the discussion, appears elsewhere in this issue of PROGRESS.

Dr. Dudley S. Reynolds, of Louisville, read a paper on Conjunctivitis, which, with the discussion, appears elsewhere in this issue of PROGRESS.

Dr. D. C. Peyton, of Jeffersonville, read a paper on some of the uses of carbolic acid, which took the course of the other papers, and appears in this issue of PROGRESS.

Dr. W. B. Fletcher, of Indianapolis, who was not present, had prepared a paper, which was read by title and referred for publication. (Manuscript not yet received.)

Dr. A. J. Banker, of Columbus, Ind., exhibited a pathological specimen, and read the report of a case of fibro-cystic tumor of the uterus. The report appears elsewhere in this issue of PROGRESS.

On motion, the Society referred all the papers and discussions to the editor of PROGRESS for publication.

On motion, the Society tendered a vote of thanks to the Trustees of the First Baptist Church for the use of their beautiful lecture room during the two days' meeting.

An invitation from Prof. N. S. Davis, of Chicago, to hold the next meeting of the Society at some point on the lakes, was received too late for consideration. Thanks, however, were tendered for the invitation.

On motion, the Society adjourned to meet at French Lick Springs the third Thursday in June, 1888.

BOYLE COUNTY MEDICAL SOCIETY.	The Twenty second annual reunion of the Boyle County Medical Society was held at Danville on the 28th of Dec., 1887. A large number of invited guest assembled with the full membership of the Society, and spent eight hours in scientific work, which will appear in due time. The exercises over, the Society enjoyed the dinner at Gilcher's Hotel until a late hour.
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THE LABOR QUESTION.	It may appear out of place for a medical journalist to discuss the
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labor problem; yet, being a citizen, associated more or less in business affairs and otherwise with people of different occupations, the editor of PROGRESS feels constrained to say a few words about strikes, boycotts, and labor unions. There can be no harm whatsoever in the organization of associations for mutual improvement; but the question of mutual improvement is one which seems to have been widely perverted and misunderstood. Printers have been induced to unite, not for the purpose of mutual improvement, but for the purpose of securing a uniform rate of wages for their labor. Of course, other objects are alleged, but this is the prime object. Designing persons who hope to hold salaried offices for haranguing these men until they finally come to feel that it is not honorable—or, at least, not respectable for a man to set type unless he belongs to a printers' union. Others, however, who feel that in a free country a man should be at liberty to engage in the pursuit of a livelihood without being obliged to join any sort of a society, or pay dues or assessments to anybody but his own family, have been threatened with violence; and, in some instances it is reported that life has paid the forfeit of such an undertaking. Every branch of labor, and

every trade, seems to have been brought under this baneful influence. The skilled mechanic, who, by gifts of nature and long-continued devotion to the cultivation of them by habits of persevering industry, is, by the printers' union—and, for that matter, the moulders' union, and all other unions of the trades and laboring classes—obliged to work for the same wages paid to the most stupid, unskillful and inefficient botch in either of these assemblies. The influence upon the laboring classes generally is most pernicious. The factious man who does not want to work, finds some excuse for disagreement with his employer; and, taking the matter up with other members of a labor union, finally succeeds in bringing about some trifling disagreement upon which several unite, which is made the basis of a strike. If anybody offers to occupy the places vacated by the strikers, the rule is to menace them with all sorts of threats; and, if that does not suffice, to visit severe corporeal chastisement upon them. That failing, the strikers often attempt either to destroy the lives of those who succeed them, or the property of those who employ them.

Just now in Louisville we have a remarkable state of affairs. First, the union printers in the book and job printing offices went on a strike; but the proprietors being able to supply the places of these men, the next step was to institute what is called the boycott. So far as heard from, however, PROGRESS has not suffered materially at the hands of these malcontents. It wishes them well, and hopes they will, upon reflection, consider how foolish they are to violate the law by trying to interfere with our business and by trying to intimidate those who have taken their places in our composing rooms. The printers must learn that in free America many of the best type-setters do not feel like sacrificing their personal liberty for the bare privilege of paying extravagant assessments and heavy dues to the maintenance of an organization which is manipulated in the interests of the few to the detriment of the many.

PROGRESS pays first-class prices for printing, but it does not choose to be governed by the rules of the printers union.

CONTEMPT

OF COURT.

Of all the curious reading that we have enjoyed in some time, we think that afforded by a communication from Dr. F. E. Stewart to the current number of the *Druggist's Circular* certainly caps the climax. It affords a splendid illustration of the wisdom of the adage which advises the shoemaker to stick to his last. Whenever a physician strays from his own profession into the intricacies of the law, and especially of the patent laws of this country, his feet are in dangerous and slippery ground, no matter where his head or heart may be. In the present paper, Dr. Stewart attacks the recent decision of the United States District Court in the matter of the suit of Battle & Co. against the Grosses (Daniel W. and Edward Z.) for infringement of their copyright of Bromidia. He declares that the decision is not final or binding, and advises the Grosses and druggists generally not to pay any attention to it. Dr. Stewart thus puts himself in contempt of the United States Courts and advises others to place themselves in the same foolish and dangerous predicament. The queer part of the matter, however, is that every reason which he advances against the validity and justice of the decision is the strongest possible argument in its favor, and the reader must be obtuse indeed not to see that it is so. This view of it was evidently taken by the editor of the *Circular*, who says: "While giving Dr. Stewart's argument publicly on account of its novelty, we think it proper to remind pharmacists that they are bound by the decision so long as it is allowed to stand"—which advice is good, sound sense, like pretty much everything that emanates from the editor of the journal quoted.—*St. Louis Medical and Surgical Journal*, January, 1888.

FRENCH LICK

SPRINGS.

Within two hours ride from Louisville is the French Lick Springs, in Indiana. Last year the Mitchell District Medical Society assembled there, on the 30th of June, and continued in session for three days. The place proved so delightful to those who had the good fortune to attend, that it became at once very popular and had a large patronage the remainder of the season. The Springs has passed into the hands of a Louisville company, which is making efforts to enlarge and expand its capacity for the promotion of both comfort and pleasure. All the necessary sanitary regulations have been considered. At a recent meeting of the Mitchell District Medical Society, Dr. U. H. Hon, who was last year Resident Physician at the Springs, induced the society to select that place for the next meeting, which is to take place the third Wednesday in June, 1888. The springs people are indeed fortunate in having so good a friend as Dr. Hon, who, by securing the attendance of the medical society, gives to the place at once an extended and favorable notice. It is to be hoped, therefore, the favor may be reciprocated on the part of the springs company, by retaining the services of the genial and skillful physician who served so well last year.

THE
PHARMACY
BILL.

The Kentucky Legislature is now considering a bill which proposes to make the present Law cover the entire State. At present the Pharmacy law operates in towns and cities of five thousand or more inhabitants. No one should be allowed to practice medicine or pharmacy who has not received a regular professional education in which ever of these professions the applicant proposes to practice, without being obliged to pass an examination before a board of experts. If the present bill passes it will cure many evils.

PUBLISHER'S DEPARTMENT.

ANTISEPTIC TREATMENT OF INTESTINAL AFFECTIONS.—In an article on Intestinal Antiseptics by D. N. Kinsman, M. D., appearing in the *Journal of the American Medical Association*, July 3, 1886, the author points out that the natural processes of fermentation and putrefaction going on in normal digestion are so changed in dyspepsia and other forms of intestinal disease as to produce poisonous alkaloids which are the cause of the symptoms developed in such disorders.

The researches of Prof. Vaughn, of the University of Michigan, in which tyrotoxicon has been shown to be the cause of ice cream poisoning, which are still fresh in the minds of medical readers, have thrown still more light on the etiology of intestinal antiseptics as a method of treatment.

To facilitate such treatment we learn that Parke, Davis & Co. have recently added to their list an Intestinal Antiseptic Pill, the formula of which is as follows: Mercury Protiodide, 1-8 gr.; Podophyllin, 1-16 gr.; Ext. Nux Vomica, 1-16 gr.; Ext. Henbane, 1-16 gr.

IT SEEMS proper in connection with Dr. Voks' article upon Elixis Paraldehyde to give our readers attention to the advertisement of R. A. Robinson & Co.'s preparation.

MESSRS. R. A. ROBINSON & Co. have just received a supply of very superior California sherry, which is to be used hereafter at their laboratory in the manufacture of the wine of coca. It is not always possible to secure a reliable article of this important nutritive stimulant; and the editor of PROGRESS is all the more pleased to state from personal experience in its use that Robinson's Wine of Coca cannot be excelled for uniformity of strength and absolute purity.

THE Alabama Medical and Surgical Journal has not come this way for some months. What's the matter, Brother Davis?

PROGRESS

A Monthly Magazine for Students and Practitioners of Medicine.

"I HOLD EVERY MAN A DEBTOR TO HIS PROFESSION; FROM THE WHICH AS MEN OF COURSE DO SEEK TO RECEIVE COUN-
TENANCE AND PROFIT, SO OUGHT THEY OF DUTY TO ENDEAVOUR THEMSELVES, BY WAY OF AMENDS, TO BE A HELP AND
ORNAMENT THEREUNTO. THIS IS PERFORMED, IN SOME DEGREE, BY THE HONEST AND LIBERAL PRACTICE OF A PROFES-
SION; WHEN MEN SHALL CARRY A RESPECT NOT TO DESCEND INTO ANY COURSE THAT IS CORRUPT AND UNWORTHY THEREOF,
AND PRESERVE THEMSELVES FREE FROM THE ABUSES WHEREWITH THE SAME PROFESSION IS NOTED TO BE INFECTED; BUT
MUCH MORE IS THIS PERFORMED, IF A MAN BE ABLE TO VISIT AND STRENGTHEN THE ROOTS AND FOUNDATION OF THE
SCIENCE ITSELF; THEREBY NOT ONLY GRACING IT IN REPUTATION AND DIGNITY, BUT ALSO AMPLIFYING IT IN PROFESSION
AND SUBSTANCE."—*BACON*.

VOL. II.

LOUISVILLE, KY., FEBRUARY, 1888.

No. 8.

GENERAL MEDICINE.

THE ETIOLOGY OF PHTHISIS,

BY

R. W. PHILIP,

M. A. M. D.,

F. R. C. P. EDIN.

Physician to the Victoria
Dispensary for Con-
sumption and Dis-
eases of the
Chest,

Edinburgh.

British Medical Journal.

It is not my inten-
tion to discuss the mor-
bid anatomy of the
phthysical lesions, nor
the dependence of the
phthysical process on
the presence of the
tubercle bacillus, nor
the important ques-
tions of heredity and
of climatic and other
influences, which bulk
so largely in the etio-
logical chapter.

For the present, I start with an acceptance of the doctrine of the unity of the phthysical process, and of the immediate dependence of the process on the presence of the bacillus. The rigidly exact observations and experiments of Koch and others have, in my judgment, placed this beyond doubt. I prefer, at least, not to raise the question now. But, in spite of the comparative fulness and clearness of our knowledge in these lines, it appears to me that we are far from a rational conception of the actual cause of death in phthisis. It was with the view of further elucidating this higher etiological problem that the present investigation was undertaken.

A glance through the literature of the subject reveals how seldom the attempt has been made to solve the problem, how comparatively seldom, indeed, the question has been

raised. Where the matter has been discussed, explanations have been offered, which may be classified roughly under four heads, namely: (1) progressive asthenia; (2) loss of hæmmatosis; (3) the lighting up of fresh inflammatory foci; (4) the absorption of waste products. Now, I have no desire to depreciate the value of these as integral factors in the process. My contention is that, in view of the comparative regularity of the clinical phenomena, and in the light of more recent work, they do not afford sufficient explanation. Each of them was fully discussed prior to the discovery of the tubercle bacillus, and Jaccoud, more especially, has the credit of emphasising the importance of the fourth, namely, the absorption of waste products. Since the announcement of the tubercle bacillus, comparatively little has been added in this direction, though the features and clinical course of an ordinary case of phthisis and those of experimentally induced tuberculosis are well defined and strikingly similar.

What, then, is the *modus operandi* of the tubercle bacillus in leading toward death? Its fatal properties cannot, I think, be regarded as merely irritant or privative. In all probability they are attributable to a power possessed by it of elaborating new products which are afterwards absorbed.

Before explaining on what facts I base that statement, I ought to mention that Dr. Hermann Weber has hinted at the probability of such elaboration and absorption. In the Croonian Lectures (1885) Dr. Weber speaks

of "the chemical poison which probably is originated by the development of the tubercle bacillus in the tissues in an analogous manner, as, according to the researches of Gaspard, Panum, Billroth, Burdon Sander-son, and others, a powerful chemical poison—sepsin—is developed in the process of septicæmia." I am not aware, however, that up to the present any attempt has been made to treat the matter more seriously. Whether the superstitious product or products are secreted by the bacillus or are elaborated from the tissues which it infects raises another question which must be discussed later. It is enough, meanwhile, if we recognize the probable dependence of these new products on the presence and action of the bacillus.

Such a process of elaboration or secretion has its analogue in the more evident varieties of fermentation, which have been studied by Pasteur, Schutzenberger, and others; for example, the alcoholic, the lactic acid, the butyric acid, and the ammoniacal. More particularly the view appears to me substantiated by the following weighty evidence. The association of special forms of microzymes with special forms of fermentative action has been conclusively demonstrated by Pasteur and a large school of subsequent observers. A distinct variety of fermentation certainly follows the admission into a suitable medium of a given microbe, as the exclusion of the same microbe excludes the possibility of its occurrence. Further, the rearing of pure cultivations has shown that different effects are obtained, though some of the observations in this direction are open to question, and, certainly, marked differences in the rate of growth are observed, according to the constitution of the medium in which the cultivation is attempted, while certain organisms are most exclusive in their selective affinities. Moreover, if the same medium, say Koch's gelatine, be utilized for the cultivation in different tubes of different microparasites, the effects produced on the medium are very different in the several

instances. Even in the gross, such differences, for example, in the rate and amount of liquefaction in the production of certain gases are marked. And it is in the highest degree probable that careful examination of the medium after cultivation has been carried on for some time would show important alterations in its chemical constitution, as occurs in the better known forms of fermentation. In other words, the living organism has the power of disturbing, or rather, in order to the preservation of its own life, the organism is compelled to disturb, the molecular arrangement of the elements in the medium of cultivation.

These considerations open up a wide and promising field for investigation. This appears the aspect of bacteriological observation, which is pregnant with most results. In illustration of this, the work of Panum, Selmi, Gautier, Brieger, Bergmann, and Schutzenberger, need only be cited.

In practically applying this hypothesis to the problem of phthisis, I directed my attention first of all to the urine. The results obtained, which have been given elsewhere, were not sufficiently definite in character to warrant their citation here. Examinations of portions of the diseased organs, or of the glandular appendages, was abandoned, as it was found impossible to have these sufficiently fresh to avoid the objections that would inevitably assail successful results so obtained. This led to the adoption of the sputum as the *materies morbi* for investigation, and that, on the following, among other, grounds:—

1. The sputum is the constant accompaniment of the morbid condition, and stands in a peculiar relationship to the diseased organs.
2. It is always accessible in large quantity; fresh, and, therefore, as much as possible free from such contamination as might be supposed to introduce fallacy.
3. It has been shown that the maximum amount of the contagious element resides in the sputum.
4. Having regard to the conditions of growth of the tubercle bacillus, it seems likely that

the muco-purulent secretion is a peculiarly good medium for cultivation. 5. It has been proved that tubercular sputum retains its virulence for months. 6. The presence of tubercle bacillus can be comparatively easily determined, while with greater care its relative abundance in different specimens may be gauged. 7. The sputum can readily be subjected artificially to similar conditions outside the body as within the chest. 8. Much of the experimental work already carried out with reference to tuberculosis has been done by the subcutaneous and intravenous injection of unaltered phthisical sputum (*cf.* the work of Villemin, Chauveau, Biffli, Veza, Semmer, Tappeiner, etc). 9. Collateral evidence from the side of other ptomaine investigations seems to imply that the ready access of oxygen to the centre of ptomaine production aids considerably in their rapid and abundant development.

After approaching the subject in a variety of ways, with a remarkable constancy of results, I thought it best to institute a series of experiments with extracts obtained from different phthisical sputa by such methods as could be least open to objection in respect of complications introduced from without.

Method.—The sputum was carefully collected in a clean vessel, preferably a closed jar, with central hole for the entrance of the expectorated material, such as is used in some of the Edinburgh Royal Infirmary wards. In the selection of the patient the greatest care was exercised. *a.* Only such cases were made use of as showed undoubted signs of advancing phthisis. *b.* No case was accepted where the temperature chart did not record a more or less persistent elevation. *c.* After the first two or three examinations it was found best to restrict the selection to subjects where possible impurities from smoking were absent.

Similar care was taken in the selection of the sputum. *a.* The sputum was rejected when any foreign admixture was present, such as vomited materials. *b.* It was rejected when saliva was present in appreciable

amount. *c.* The reaction of the sputum was tested, and only such admitted as gave an acid or neutral reaction. This last condition was found always associated with a peculiar odor which may be regarded as *sui generis*. *d.* The presence, and approximately the relative abundance of the tubercle bacillus was in every instance ascertained.

The sputum, thus carefully collected for twelve or twenty-four hours, is at once subjected to further examination. Its bulk is measured, and three volumes of rectified spirits are added to it. The mixing process is carried out *guttatim*, so that the separation of the elements of the sputum may be rendered complete, and the admixture made as intimate as possible. If the sputum be neutral, or but faintly acid, a trace of tartaric acid is added to the rectified spirits previous to mixing. The whole is transferred to a Florence flask. Its mouth having been protected by a fine muslin rag, the flask is placed in a Koch's steam sterilizer, and exposed to a gentle moist temperature of 36° to 40° C. for twenty to twenty-four hours. At the end of this time the fluid is carefully filtered, first once or twice through fine muslin, and then three or four times through filter paper, till the filtrate runs off perfectly clear. Its volume is then measured, and the whole evaporated down in open beakers to one-fifteenth of its bulk (*circa*). This reduces it to the consistence of a more or less muddy extract, varying in color according to that of the original sputum. The latter part of the process is conducted slowly, with the view of driving off all remaining trace of spirits, and to prevent the escape of other volatile products.

The extract thus obtained was utilized for injection. With regard to its constitution, it must be observed that it is as pure an extract as can well be obtained of the carefully-selected sputum. The only additions made are measured quantities of faintly acidulated rectified spirit. This, in the process of slow evaporation to one-fifteenth of its

original volume, was presumably entirely given off; so that, in observing the results, we have to deal with the effects of a fairly purified extract of phthisical sputum—that is sputum minus the coagulable elements, separated out by the addition of the rectified spirits and the after-process of filtration.

It should be further mentioned that the extract, when properly prepared, is most unstable; and, being extremely liable to the attack of fungi, breaks down in a few days, giving rise to new products. The extract was, therefore, never used for experimental purposes after it had been prepared for three or four days.

Four series of experiments were conducted with the extracts so obtained:

1. To observe its effects on the system generally.
2. To observe its effects on the circulation; that is, on the cardiac rate.
3. To test the antagonistic effects of certain drugs, especially atropine, as regards the system generally.
4. To test these antagonistic effects as seen more especially in the cardiac rate.

It is impossible here to give details of the numerous experiments conducted under these heads, but the general results may be summarised.

SERIES I.—A. On Frogs.—Thirteen experiments carried out with varying quantities, and under a variety of conditions, yield results of striking uniformity, and point to the presence of the extract of a toxic principle, or of toxic principles, of considerable potency. The results differ only in degree, a progressive increase in the intensity of the symptoms being observable with the increased dosage. The general line of symptoms is that of the gradual development of voluntary motor depression. In no instance was a stage of excitement traceable. This condition of depression appears, in part, explicable by a toxic influence exerted on the higher centres. This is evidenced by a general character of the depression, by which sluggish nature of the movements while co-ordination remains little affected, and by contraction of the pupils. The spinal cord

appears to be unaffected, the reflexes remaining normal throughout in the less severe cases, and in the graver being unaffected till later on.

B. On Mammalia.—In mice it was found possible to induce distinct symptoms with 0.3 cubic centimetre of the extract. These symptoms resembled in general character those observed in the frog, and passed off gradually in the course of an hour or two. With increased injection, the intensity and duration of the symptoms were correspondingly increased. As in the frog, the scope of the symptoms suggested implication more especially of the higher center. There was the same early appearance of gradually advancing depression. This, as before, was not preceded by any trace of excitation. In the course of ten minutes the animal invariably became quieter, the stage of quiescence passing on to more or less complete passivity and disinclination for movement, according to the amount injected. In the lighter cases this was gradually recovered from. In the more severe cases it deepened into death, or death followed after more or less complete approach towards recovery. In addition to these symptoms, common to frogs and mice, certain well-marked phenomena were observed. Among the more striking of these should be noted fibrillary twitching of the surface of the body, and convulsive movements of the trunk and limbs. Regarding changes in the respiration, it has to be borne in mind that the estimation of the rate of breathing is always difficult in mice. The general impression, however, was that after the preliminary excitement there remained a certain increase in the respiratory rate, to be followed later, when symptoms were sufficiently prolonged, by retardation. In those animals which died after prolonged symptoms, anorexia was a conspicuous feature, while water was drunk freely.

In rabbits, comparatively large quantities of the extract were required to produce urgent symptoms. On economic grounds

this line of experimentation was less systematically carried out. So far as they go, the results obtained were in strict accord with those just detailed. Of greater interest, however, in the case of the rabbit, was the effect of daily repeated small doses. Thus, for example, two rabbits were fed on measured quantities of oats and water, and their weights registered for some days, until the daily register became fairly constant. The same conditions were continued, with the addition that once in the twenty-four hours each animal received subcutaneously small injections of the extract. Presumably as a result of this, their weights progressively decreased by amounts varying from one-fourth of an ounce up to one ounce per diem, and the amount of food consumed was reduced to one-half, and on one occasion to one quarter, of the amount previously consumed in the corresponding time. After some days the system appeared to grow more tolerant of the morbid material, as it was found necessary to increase the dose to produce the same effect. At the end of ten days the injections were discontinued, and the weights, without increasing, remained almost constant for a week or two. Then a gradual progression downwards, apart from fresh injection, was observed, each animal continuing to lose a fraction of an ounce daily until death. It appears likely that the early loss of weight was due directly to the action of the morbid product, which doubtless led to the loss of appetite, etc. This is evidenced by the daily loss of weight corresponding with the dates of injection and by return to a more constant condition when the injections were stopped. The later progressive loss of weight, apart from injection, is more difficult of explanation. We may suppose that, following the earlier injections, a condition of marasmus developed. In neither of the rabbits was there found, on *post-mortem* examination, the slightest trace of caseation to which rabbits are prone.

SERIES II.—Effects on the circulation, that is, on the cardiac rate. A consider-

able number of experiments were conducted under this head. They prove conclusively the presence of a powerful cardiac depressant. In each instance the fall is striking. Where large doses were used it was remarkable, the cardiac rate being reduced, in the course of four hours under the influence of the extract, from 44 a minute to 18, and even 14. Coincident with the decrease in rate, a marked lengthening of the diastolic in relation to the systolic phase was evident. These results, taken along with those of Series IV (*infra*), imply, I think, that the depressed action on the heart is produced through the medium of the inhibitory fibres, and not by direct action on the cardiac ganglia.

SERIES III and IV.—It is convenient in this brief summary to combine the results obtained in Series III and IV. In each it was attempted to neutralize the ascertained depressant effects of the extract by the exhibition of presumably antagonistic drugs. For the present, I limit myself to the results obtained with atropine. The double series yield results in remarkable consonance with those obtained in the earlier series. In the first place, they afford strong corroborative evidence as to both the general systemic and the special cardiac effects of the extract. But, in the second place, they prove that the combined exhibition of atropine undoubtedly modifies these results in a striking manner. Of this there is evidence in all the experiments, the degree to which such modification is produced varying with the relative quality of the antagonistic principle. Most perfect antagonism was produced by the combined injection of $\frac{1}{80}$ milligramme of sulphate of atropine with 0.6 cubic centimètres of extract. Under such conditions the general systemic effects—easily produced both in frogs and in mice by 0.6 cubic centimètres of extract—were almost completely absent, while the cardiac rate, which 0.6 cubic centimètres sufficed to depress considerably, remained practically constant. The effects were similar,

whether the atropine were exhibited simultaneously with the extract, or at varying intervals before or after. The antagonizing influence of atropine is most strikingly demonstrated in those experiments where the injection of the extract preceded that of the atropine by a measured interval of time. In such cases the effects of the extract were first of all well defined, and gradually declined on the addition of the atropine. Similar results, though less striking, were obtained when the atropine preceded the extract. It should be added that, in every instance where counter-experiments were made with atropine, the extract was first tested, with the view of establishing its physiological action.

This experimental record is necessarily too brief, and doubtless is open to much criticism. But the results at my disposal—which I hope to publish in more extended form—appear to me to justify the statement that from the tubercular sputum there is separable one or more products possessed of well-marked toxic properties, these toxic properties being more or less completely opposed by atropine.

The remaining question is, in how far this poisonous principle is dependent on the presence of the bacillus? Might not such toxic effects be produced by extracts obtained from other sputa besides those strictly bacillar? There is, unfortunately, no time to give in full the ground for my statement, but my belief, which rests on experimental basis, is that the presence of the bacilli is causally related to the poisonous product obtained from the sputum. I incline also, for similar reasons, to the belief that there is a relation traceable between the toxicity of the extract and the abundance of the bacillar elements discoverable in the sputum.

On the line of absorption and the therapeutic indications, regarding which I had proposed speaking, I must not dwell; but it may be convenient in closing to tabulate

shortly the chief points which have been briefly discussed.

Conclusions.—1. In view of the work of Koch, it is impossible to avoid admitting that a causal relationship exists between the tubercle bacillus and the phthisical process. 2. The mere predication of this relationship is not sufficient in explanation of the clinical facts and the generally fatal termination of such cases. 3. The usually received explanations of the *modus moriendi* in phthisis are insufficient. 4. It appears probable that the lethal influence of the bacillus is due to the production thereby of certain poisonous products. 5. Clinical and experimental evidence appears to indicate that the morbid secretions from the respiratory surfaces afford a good medium for the growth of the tubercle bacillus, and, presumably, for the elaboration of such products. 6. Such a product is separable from the carefully selected and prepared sputum. 7. This product is possessed of well-marked physiological properties, being eminently toxic to frogs, mice, and other animals. 8. The toxic properties of the product are, speaking generally, depressant. 9. More particularly they include a marked depressant influence on the heart. 10. This depressant influence seems to be exerted through the medium of the cardio-inhabitory mechanism. 11. The toxic action of the product is more or less completely opposed by atropine. 12. The amount of the product which may be separated appears to bear a distinct relation to the abundance of the bacillar elements present. 13. Absorption of the poisonous product most probably occurs by way of the lymphatic circulation.

TONSILITIS.

The tonsils often become inflamed and greatly enlarged from the growth of common forms of mold in the retained mucus. In some cases exudation of lymph takes place and this filling of the fissures becomes a source of bacterial growth.

GENERAL SURGERY.

SPINAL

CURVATURE.

BY

J. A. COMINGOR, M. D.,

*Professor of Principles and
Practice of Surgery in
the Medical College
of Indiana, Indi-
anapolis.*

Read to the Mitchell District
Medical Society, at Sey-
mour, Ind., Dec. 15,
1887.

There are two cur-
vatures of the spin
Pottis and rotary lat-
eral.

The first is chiefly a
disease of infancy and
childhood, and is or-
ganic and destructive
in its nature, the sec-
ond is purely function-
al, non-destructive and
chiefly a disease of

girlhood, ranging from the age of ten to
eighteen years. In a pathological point of
view these afflictions differ essentially, this
fact must be recognized and fully appreciated
that the sufferers get the benefit of science
and art as they are now understood and
practiced. The pathological distinction may
be readily made. In Pottis disease there is
early constitutinal disturbances, in the way
of nervous reflexes, deranged digestion, de-
fective assimilation, physicial indisposition,
limited motion and unnatural movements.
None of these signs and symptoms accom-
pany lateral curvature. As a rule this form
of curvature is free from all constitutional
disturbances, reflexes or other pathological
symptoms. If such disturbances should
arise during the progress of lateral curvature
they will be attributable to some other cause
or complication, as no lesion exists in the
spinal structures, this being an acknowledged
and common fact, the pathology may be re-
garded as abnormal muscular contraction, or
if you prefer, abnormal muscular relaxation.

The spinal column is sustained in its erect
posture by muscles situated on either side of
it, in the state of health and vigor, these
muscles exactly antagonize each other, they
give and take as lateral movements, are made
from one side to the other, and when the
erect posture is resumed these muscles hold
the spine in this position until changed at the
will of the individual, therefore it will be seen
that so long as the spinal muscles coördinate

in their action, lateral curvature is impossible
but if from any cause this coördinate action
is lost, rotation takes place and lateral cur-
vature is assured, the degree of curve will
depend to a great extent on the age of the
deformity. The causes of this deformity are
not definitely known or stated, as yet they
are in a hypothetical state, carelessness in
sitting and standing, and the lack of physical
energy may be assigned as the principal cause,
girls who are growing rapidly and who have
no definite physical purpose in life, and who
have but little native energy are the common
subjects of lateral curvature.

It is a noticable, and well established fact
that this deformity seldom occurs in persons
who engage in active physicial pursuits,
individuals whose business it is to transport
baggage or other articles of commerce on
their heads, from one point to another, are
singularly free from this kind of curvature,
the reason is obvious, their occupation com-
pels them to maintain the erect posture, the
muscles of the spine and body act with
equal force and energy, and by such action
harmony in stature is maintained. In order
to bring out the full force of this theory other
muscles will have to be considered, the serate
group stand in close relationship to this de-
formity, in fact they have much to do with
it, they are the external expiratory muscles
of the body, and play an important part in
the breathing process, by their action, and
those of the rhomboidi, the chest expands
and the breathing space increases, this
muscular arrangement is to a great extent
the mechanism of respiration, they serve the
purpose of levers, lifting and lowering the
ribs while breathing in and out, and at the
same time rotate the spine on its own axis.

The treatment if successful must be found-
ed on the foregoing statement or theory, to
connect the curve muscular coördination
must be restored, to prove to you that we
have not as yet arrived at perfection in the
treatment, I have only to direct attention to
the almost innumerable variety of instru-
ments that have from time to time been de-

vised for the purpose, the use of fixed and stiff apparatus of any kind, and in any stage of the case is of doubtful propriety, in the early stage they are positively injurious, and in old cases they fail in their purpose, and only serve to torture the victim and gratify the deviser of the instrument, if this view of the subject is correct, all steel apparatus provided with crutch to lift low shoulder, and a bearing to force higher hip down, should meet with professional condemnation. The plaster jacket must share in the condemnation, for it is only another and surer way of torturing the innocent.

When the deformity is old, and the vertebral discs absorbed, and the vertebre firmly fixed in the abnormal position, next to nothing can be done in effecting restitution in their relationship, therefore, whatever can be done must be done in the earlier history of the curvature, even in the early stage, the practitioner will encounter difficulties in reducing the curves and maintaining the spine in the erect posture, to effect these purposes he must work to the end of restoring the lost muscular balance, the careless habits of patients in setting, standing and walking must be comuted, physical energy encouraged, and out door life take the place of in-door confinement. To get the full benefit of these suggestions, it will be necessary to adopt method in the treatment, and enforce strict discipline. The gymnasium and the dancing hall is suggested as the most effective means of methodizing exercise and entorcing discipline, it is a difficult matter to enforce a treatment of this kind in private practice, but in hospital, or sanitarium, with the aid of experienced instructors, many cases of lateral curvature can be effectually cured, I have already stated that occupation had much to do in causing this form of curvature, and that persons who were engaged in active pursuits, were seldom the subjects of this disease, and the class that was entirely free, is that class who carry packages on their heads, in public or private institutions; this practical idea can be used to great advantage

in treating lateral curvature, the wearing of a weight of some sort on the head and marching to music, keeping step and time is practical and rational, the weight reminds the wearer that she must keep herself erect, and systematic marching aids in equalising muscular forces, the extent of such exercise may be rated on the physical endurance of the patient, some muscles have to be strained and others protected, a variety of agencies are recommended for this purpose, in my opinion the gymnasium is the most servicable. When it is not practical to carry out the above plan of treatment, some other plan must take its place, whatever substitute is offered should be built to simulate it as near as possible, and for this purpose I have recommended the elastic apparatus, constructed so as to supply muscular deficiency at one point and overcome muscular tension at another point, this apparatus will answer the purpose well, and will fulfill every indication provided the muscles yield readily to its action, but if the muscles are contracted it will fail to yield good results until the muscles have been divided.

Time and space will not permit a free and full discussion of Potts' Curvature, its pathology is generally understood and accepted, the symptoms are familiar to the surgeon, therefore, I need not enter into a lengthy description of their significances, in the advanced stage there is no trouble in recognizing the character of the lesion, in the forming stage the lesion is not so easily read, to the inexperienced observer, obscurity and doubt shadows the true nature of the disease, the nervous reflexes which are common to this affection are calculated to mislead him, these however, will not confuse the experienced practitioner, he will read them readily and unerringly, and to him they serve the invaluable purpose of locating the lesion, if time permitted we could show how the reflexes may be read pathologically even in the primary stage, the surgeon should study the significance of these symptoms so as to arrest the disease in its infancy, for if

the disease progresses to well marked deformity, not very much can be accomplished. The etiology may be stated in two propositions, viz: the constitutional or tubercular, and the traumatic, each theory has its ardent advocates, and each proposition doubtless contains truth and error, fact and fiction in indefinite proportion, the practitioner accepts one platform of principles or the other, or stands on the compromise plank, and directs the treatment in the line of his opinions, I will not on this occasion make an argument for or against these proportions, but will say frankly that my convictions, founded loyally on observation and experience induces me to defend the traumatic proposition. At this time there does not seem to be great diversity in opinion as to the general plan of management, the difference of opinion is chiefly in the execution of the treatment, rests in its broadest sense in the principle upon which all treatment must be founded, this must be carried out in a general as well as in a special way, in the beginning the body needs rest, and the diseased vertebre needs it throughout the entire course of treatment, immobility and freedom from pressure of the diseased bones, is of the greatest importance, in the early stage of the disease, the horizontal position fulfills in a measure all the indications, and so long as the patient bears the confinement well, and without detriment to his general health, it answers the purpose quite as well as any other method, but, it is a fact, and the rule that a patients general health suffers from long confinement in the numbed position, hence the necessity of guarding closely the life powers in all lingering affections, when the necessity arises the surgeon must find a substitute for the bed, to act we must look for the substitute, a change is imperative, what shall it be, I fancy I hear you say the plaster jacket, and the tripod, or some one of the many modifications now in use, this seems to be the popular opinion, at one time I gave my support to this plan of treatment, but am now convinced that I advocated its

use with more zeal than judgment, I have not discarded the jacket, for it has its place in the list of appliances, but its merits in the scale, place it much lower in the list than that claimed for it, the tripod I never use, and have not for several years, there are times and circumstances, which may influence the surgeon to use the jacket, this may be the best that can be done, if it is, then he is justified in using it, but he need not resort to suspension, as there is a better and easier way, an inexpensive apparatus may be constructed for the purpose, I have a portable one, but even this is not a necessity except for convenience and office use, an old-fashioned slat lounge or bedstead, with slats removed between shoulders and hips, answers the purpose fairly well, if the lesion is chiefly confined to the vertebral bodies, place patient front downwards, and in the reverse position if in the process, the weight of the body with the aid of a little traction furnishes the requisite extension, in this way I claim we get better extension than can be obtained by suspension. Young children become frightened while suspended and fight to the bitter end; older ones faint, either condition will defeat the proper application of the bandage, I would point out other objections, but think it unnecessary, for if you have used the jacket much, you know them quite as well as I do.

I believe the credit of introducing the jacket in the treatment of curvatures is due, to Dr. L. A. Sayre, who sent it forth, in strong and enthusiastic language, he placed it above and beyond all others, doubtless that was his opinion then, is it his opinion now? The crucible of time has analyzed it, and in the opinion of the writer it stands in the scale much lower than it did at the outset, the steel brace with its many improvements, and elastic attachments, we think much better and more comfortable than the jacket, simplicity in construction is a desideratum, it possesses many advantages over the jacket, among which are cleanliness and its daily removal, the removal of the apparatus at

night I am sure affords comfort and rest to the weary patient, the bed takes the place of the instrument, and there should be no departure from the rule of removing it, unless strong and exceptional reason exist for wearing it night and day, as a rule the child rests and sleeps better with it off than on, rest and sound sleeping go far toward repairing the general health, and wasted energies. Nature arrests the disease, and repairs the breach, it is the business of science and art to aid her in every possible way, remove all obstacles which lie in her path, and stand guard and see that nothing gets in her road to defeat her efforts, to do the best and most effective work in this line the surgeon and mechanic should co-operate in the construction of the apparatus, the surgeon should devise the brace and superintend its construction and fitting, this is the only way good and efficient service can be secured.

TREATMENT

ON ENLARGED PROSTATE,

BY

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MR. PRESIDENT AND

FELLOWS,—I purpose

this evening speaking

of the pathology of

the prostate relative to

some points in connection

with the prevention and treatment

of certain disorders

arising out of it when

it becomes hypertrophied.

The causes of

hypertrophy of the

prostate have formed

the subject of much

careful observation,

and I feel some hesitation in again referring to them. Still, on the other hand, though my views may not prove generally acceptable, I am inclined to think that a narrative of the observations upon which they are to a large extent based may serve a useful purpose in indicating lines of thought which may result, sooner or later, through the investigations of others, in clearing up doubt-

ful passages in the physiology and pathology of this part. In the first place I shall speak of the prostate as forming the retentive apparatus of the male bladder, under whose influence the urine is collected and held, irrespective of any glandular function which, by the nature of other structures it may contain, it is capable of exercising. And I think it will not be difficult to substantiate the proposition that, in the human species at all events, this part may with greater propriety be designated the "prostate muscle," rather than the "prostate gland," for whatever function it may exercise intermittingly, relative to the process of generation in its latter sense, seems to be subservient to the physical part it is continuously playing as a portion of the retentive apparatus. In support of such a view I would draw attention to Mr. Ellis's important paper (*Royal Medical and Chirurgical Transactions*, vol. xxii), On the Muscular Arrangements of the Genito-Urinary Apparatus, wherein it is remarked, "I would propose the name *orbicularis vel spincter urethæ*, for both the prostate and the prolongation around the membranous urethra, whilst I would confine the old term 'prostate' (without the word gland) to the thickened and more powerful part near the neck of the bladder. This obicularis may be considered as only an advanced portion of the circular layer of the bladder, though it must have the power of acting independently of vesical fibres. But if its muscularity is admitted, we must conclude that it for the most part exercises its function in conjunction with the bladder in the form of a hollow muscle, for it would be against the nature of things for it permanently to exist in the shrivelled and contracted state it presents after death. We have been too much accustomed to regard the prostate from its *post-mortem* aspect, that is to say, that as a mass of muscle of the size and form of a chestnut, in which is contained some secreting tissue. For concluding that it thus exists through life, I believe there are no substantial grounds, as it seems to me

that under no circumstances, save the rare and momentary one when the bladder is absolutely empty does it present such an appearance. On the contrary, the muscular fibres are spread out like a funnel, with the apex downwards so as to form a strong muscular support for the bladder and its varying amount of contents, the degree of expansion being naturally relative to what the viscus may contain. Hence the action of the prostate may be said to be just as continuous as that of the heart. In reference to this important point it will be necessary that I should furnish some reasons for such a conclusion.

In the first place, the clinical examination of a healthy person with varying amounts of urine in his bladder affords no evidence that the prostate presents the contracted appearance we are accustomed to see; on the contrary, when the finger is introduced into the rectum, in the natural condition, the parts are felt to be disposed in the manner I have indicated, and providing a muscular floor for the bladder and its varying amount of contents.

But the retentive function of the prostate is more strikingly shown when we proceed to what I would speak of as actual demonstration. And for this purpose we have only to observe what follows in connection with certain surgical operations on those parts with which most of us are familiar. Incisions may be made into the male urethra in any part of its course, as far as that point which we are accustomed to call the apex of the prostate, without any incontinence of urine following. I have seen cases of lithotomy by the median operation retain full control over the bladder during the whole period of their convalescence, in spite of the dilatation to which the prostate has been subjected by the introduction of the finger and the extraction of the stone. And this remark applies equally to cases of external urethrotomy.

When, however, the knife impinges to any appreciable extent upon the prostate, as

in the lateral operation for stone and the modified median operation which I have recently drawn attention to, where the prostate is divided, from that moment incontinence takes place; the patient has no command over his urine; he can neither collect nor expel it, and in this condition he remains until the healing process has made considerable advance. We have here striking evidence, not only as to the habitual function of the prostate relative to the contents of the bladder, but that the action of the part must be unceasing in its character subject to the circumstances under which it has to distribute its force over the area it supports or brings into action. How completely the prostate forms the lower section of the bladder was demonstrated to me in a very striking manner only a few weeks ago, and in a way that I had not previously noted. It was a case of lateral lithotomy in a young man where, ten days after the operation, there was some free hemorrhage. As the bleeding did not proceed from any part of the perineal wound, I had the patient put under ether on the operating table, and, suspecting where the bleeding came from, I introduced the nozzle of a Higginson's syringe into the orifice of the urethra, expecting that the fluid would run out of the open urethra; this it certainly did, but not until it had first entered the bladder, out of which the fluid escaped, together with some old clots which had evidently collected in the viscus, just as water would do out of the side of a cask in which a hole had been made. This I was able to see, as the wound was held open with retractors under a strong light. In addition, however, to testimony of this kind, I am convinced, from a careful examination of the prostate, both before and after operations on this part, where the introduction of the finger into the bladder formed a detail of the proceeding, that the more usual condition of the healthy prostate is one of relaxation, and not of contraction, as we are accustomed to see when death has taken place.

But further, when there are no such physical functions to perform relative to the contents of the bladder, the prostate, as a muscle, so far as I have been able to ascertain, only exists in a rudimentary form. I refer to those distressing abnormalities known as extroversion of the bladder, where, from the fissured nature of the structures, there is no receptacle for the urine which escapes from the ureters as it is excreted. Here, though the sexual sense may be normal, there is from the nature of the parts no necessity for any provision being made for the collection and retention of what the kidneys secrete. I have not been able to discover, though I have taken considerable pains to do so, that in these abnormalities hypertrophy of the prostate has ever been noticed. This seems to me to be a point of some significance in connection with what has been already urged. But though in an argument of this kind I would prefer to substantiate my position from positive evidence rather than by a deduction from the negative, I cannot help remarking that, if the office of the prostate was solely in relation to the sexual act, the pathology of the part would tend to indicate this more than I believe it does. It is not very common to meet in practice with cases of acute suppuration commencing in the follicles of this part, where one would think that irreparable damage must have been done, and yet we have evidence to show that the individual has not necessarily been unsexed by this process. Nor can I assert, though the opportunity for doing so has now for some years been abundantly provided me in my operations, involving varying degrees of mutilating the prostate, that I ever extinguished the procreative powers.

In the next place, I would point out that adult man seems to require some special provision such as the prostate affords for the purpose I have just indicated, by reason of the exceptional degree of pressure to which the most dependent portion of his bladder is constantly subjected. And in making use

of the words "exceptional degree of pressure," I do so in contradistinction to what is found, so far as I have been able to observe, not only in the animal kingdom, but in other varieties of the human species which are not in exact correspondence with the type I have taken. As demand and supply in the disposition of muscular tissue are proportioned, it seemed to me that we had hitherto failed fully to recognize and appreciate all the circumstances which rendered it necessary that the adult male bladder should, as I have already pointed out, be provided with a muscular apparatus of of considerable strength at its most dependent point.

But in what respects, it may fairly be asked, does the adult male bladder differ from other varieties of its species, and from those animals which in their higher organization more closely approach it? I maintain that in man the perpendicular axis of what I would speak of as urine-pressure falls directly upon the outlet of the bladder, whereas in the female, not only are there other means of supplying muscular support to the base of the bladder, but in consequence of the difference in the pelvic organs, a considerable portion of the weight of the viscus, especially in its more extreme degrees of distension is borne by the pubic portion of the pelvis. Further, allowance must be made in the female sex for no provision being necessary for seminal ejaculation, in which function the muscular fibres of the prostate undoubtedly play an important but occasional part.

In the higher mammalia—excepting perhaps, in the case of dogs—the prostate is not so largely developed as in man. In reference to this point Mr. Bland Sutton kindly informs me that, although he has conducted many thousand *post-mortems*, yet, excepting in the doubtful case of dogs, he has never seen an enlarged prostate—at all events, such an one as would cause obstruction to the flow of urine. In animals it will be observed that the perpendicular axis

of urine pressure, when the bladder is tolerably full, does not fall, as in man, on the outlet, but on the parts which support the bladder, according to its varying degree of distension. In the dog, it seems to me not improbable that the exceptional degree of prostatic development is related to the somewhat peculiar condition under which, in this animal, micturition is performed.

As my opportunities of examining the urinary apparatus in the lower animals have been few, I feel much hesitation in making reference to any observations I may have rather casually made so far as they related to the point under discussion. It, however, appeared to me that where the habits of the animal, as observed in some apes and marsupials, necessitated the frequent adoption of an erect position, the males had a much greater development of the prostate muscularly than was usually found in other kind of quadrupeds.

I regret very much that we have not at our disposal more abundant means for referring to dissections illustrative of the comparative anatomy of the body. I am sure they would prove of much assistance in investigations of this kind, having relation to normal and morbid human anatomy. But, apart from this, if time permitted, it would not be difficult to adduce further evidence to show that in man the collection and storage of urine, if I may make use of such a term, implies a degree of muscular support to the most dependent portion of the viscus, for which no such complete provision has to be made under any other condition of life I am acquainted with. I should not, however, feel at all surprised if, when the "missing link" is discovered, he is found paying the penalty for his assumption of the erect posture by developing in some degree an enlarged prostate.

But to proceed; if the prostate represents the chief means of retention and support for the contents of the male bladder, is it necessary to pursue the argument for the purpose of explaining why it becomes hy-

pertrophied? Does not one follow upon the other? Are not the circumstances of individual life sufficient to explain why it happens to one person and not to another?

Many of the facts connected with the natural history of hypertrophy which have been collected for us, or with which, in our daily practice, we are familiar, seem to me to support the view I have taken relative to the function of the part. In the first place, it is not met with during those periods of life which are most remarkable for muscular activity and development; on the contrary, it is called into existence where, pathologically speaking, quantity seems to supplement deficiencies in quality.

But as with similar changes in other parts of the body so may prostatic hypertrophy be shown to be exactly compensatory: whilst in others, by an excess of the process, it may be proved to be detrimental. And in reference to this point I would remark that we have been too much accustomed to regard prostate hypertrophy as necessarily a morbid and hurtful process. To such a conclusion I think exception may be taken on substantial grounds. It is stated by Sir Henry Thompson that actual hypertrophy of the prostate exists in about 34 per cent. of men at and above 60 years of age; that it produces manifest symptoms in about 15 or 16 per cent. From this it would appear that the larger proportion of persons are not injuriously affected by the change, a circumstance which seems to suggest that the majority of persons with large prostates are in some way or other benefited by them; and this deduction is considerably borne out by every day experience. I am disposed to think, from my own examinations, that the frequency of some degree, of prostatic hypertrophy is thus rather under than over-estimated. Though it is not easy to form an absolutely correct estimate of the size of these parts relative to standard measurements by rectal examination, my conclusion is that a far greater number of males over 60 years of age have some en-

largement of the prostate, and are never in any way conscious of the alteration, than we should conclude from the figures I have just referred to. How frequently, for instance, when we are examining elderly persons, say for some disorder of the rectum, we make the discovery that their prostates are enlarged, though they have no reason to be conscious of this change. I can at this moment recall many instances of this in my own practice where the persons are in every sense of the word in the enjoyment of the most perfect health, with an entire absence of any urinary ailment. Quite recently I was asked to examine a gentleman who, in the course of an acute bronchitis, had retention of urine for the first time in his life. This patient had an enormous prostate, which must have been in course of formation for several years. Surely, under these circumstances, in the first instance the hypertrophic change must have been called into existence for a distinctly conservative object, and had been merely disarranged by the violence of the cough from which he was suffering.

But though prostatic hypertrophy is, as I have shown, in the greater number of instances more or less compensatory, it may, as in others, be in excess of what is required, and thus prove detrimental. In the latter category, reference no doubt will occur to us of those examples where the prostatic mass is made up of projections having a somewhat lobulated or nipple-like form, where the degree of irritation and obstruction excited is often very considerable, and apparently out of proportion with the cause. These I would speak of as being the structural upheavings of a frequently-contracting muscular ring. In a muscle or part undergoing hypertrophic growth, and where the process is prompted by circumstances which are obviously liable to some degree of variation, tissue production may be excessive or become unnecessary. Such excess would naturally tend, under the contraction of the part, not only to protrude itself where the re-

sistance was least, but to assume a more lowly-organized form than that which in the first instance was developed. In this way, I believe, these masses of more or less degenerated prostate tissue are formed, which subsequently cause so much vesical irritation and irritability. And this observation, whether a large prostate still remains almost entirely muscular or has become largely converted into fibrous tissue, has an important bearing in practice in those cases where we have to express an opinion in reference to the probabilities as to whether the use of the catheter will be a temporary or a permanent expedient; for where there is evidence to the touch that fibrous tissue predominates largely over the muscular, the use of the catheter is generally perpetual; whilst, on the other hand, when the prostate is found soft and yielding to the touch, as when it remains muscular, a complete restoration of function may be anticipated. Thus, then, may the resistance which is constantly going on in the most dependent portion of the bladder against that downward pressure which is exercised by the collection and retention of urine in the bladder, prove the common cause of its hypertrophy.

But this is not the only condition under which hypertrophy involving the lower section of the bladder can be studied. In the examination of the bladder, both after death and in the course of surgical operations, it is impossible not to be struck with the altered relations which frequently exist between the body of the viscus and its neck or outlet. In early adult life the bladder may be regarded as an abdominal rather than a pelvic organ; as years advance it gradually sinks within the pelvis; whilst still later on it will often be found to have become further depressed within the pelvic cavity. In this way I have seen a prominence given to the floor of the prostate, which was really due not to the development of more prostate tissue, but to the depression or partial prolapse of the posterior wall of the bladder. This artificial condition of obstruction I

have endeavoured to show, in some instances, not only precedes prostatic obstruction, but, further, is followed by the developement of a strong muscular buttress between the orifice of the ureters, which in many instances leads to the obstruction of what otherwise would prove, by the sinking of the posterior wall of the bladder, an inconvenient pouch. Thus hypertrophy of the prostate and the adjacent part may not only be due to the natural resistance of urine-pressure, but may also be called into existence for the evident purpose of supplementing a structural defect of more or less accidental origin.

It is impossible to observe the function of micturition in the child and the adult without recognizing that in the two conditions there are wide differences in the influences that the will exercises upon the merely mechanical act. In the child the process almost approaches the involuntary; the calls of Nature are impulsive, and must be obeyed without hesitation. This may be illustrated in a variety of ways, in health as well as in disease. In adult man this is to a large extent changed, as we find the process becomes much more subservient to the will than perhaps at first sight we should feel disposed to admit. That there is a wide difference in our respective powers of continence in this respect I am willing to admit. In some individuals the function of micturition seems in health but very slightly removed from a purely voluntary act. Let me illustrate what I mean. A medical man, closely approaching 70 years of age, asked me to examine his rectum for some slight ailment. In doing so I found that he had a very large, soft prostate. I mentioned this to him, when he remarked, "I could hardly believe it, as I have always had such excellent water-works. I have been in the habit of not passing urine for eight or ten hours." Here then is an illustration of a man who submits his bladder to the same degree of urine-pressure at 70 as he did when he was 27. Again a captain of one of our ocean

steamers, in consulting me in reference to some urinary disorder clearly connected with a large prostrae, in comparing his present with his past powers of retaining urine, remarked that in consequence of remaining on the bridge of his steamer for long periods of time, particularly in thick weather, without leaving it to pass water, he had acquired a power of retention which had gradually become constant. It is remarkable that Nature has thus substituted quantity for quality, and had made provision against the effects of a muscular strain which could not have been inconsiderable? We might from our daily practice multiply examples of this kind where persons, so far as was known, were not deriving anything but good from that excess of muscular tissue which we are accustomed to speak of as the prostate gland. If we admit that the muscular fibres, of which the prostate is so largely composed, exercise the function I have urged relating to the contents of the bladder, I do not think we can be at loss to understand how they become hypertrophied.

Let me, however, not be understood as implying that in the human species the prostate has no relation with the sexual act. Evidence is not wanting to show that, both as a muscle, as well as by reason of its glandular element, it exercises purely physical functions relative to this important but casual function, independently of the continuous action I have laid stress upon in relation to micturition. The less important function of the glandular portion of the prostate has been, I believe, correctly described by Dr. Handfield Jones (*The London Medical Gazette*, vol v, 1847), in the following words:—"Its part in the generative function is probably not to prepare any essential element of the fecundating fluid, but merely an appropriate viscid material, involved in which the seminal animalcules may be more securely transported on their destined route."

Passing to some considerations relative to

the prevention of prostatic hypertrophy, and the complications arising out of it, I would observe that more care should be systematically taken to preserve the muscular power of the bladder, and to aid it artificially when the necessity obviously arises. If a man goes on using his bladder as he would a water-bottle, from adolescence to old age, he must not be surprised if nature prevents it breaking down entirely by the process I have described. The timely use of the catheter has often, I am sure, provided the means for warding off changes which unfortunately do not always cease when they have become precisely compensatory. Nor is there anything exceptional in this, for as age advances we recognise the importance, and make use of artificial assistance in a variety of ways which I need hardly particularise. In the clinical history of most cases of hypertrophy of the prostate, we can generally trace a period when a weakness of the viscus indicated itself by a frequency in action, which was subsequently corrected by an overgrowth in the part. But, unfortunately, the process of hypertrophy, as observed in the prostate, is not infrequently in excess. In by far the larger porportion of these instances the individuals are able not only to keep themselves comfortable by the use of the catheter, but I question very much whether their lives are in any way shortened by the continued inconvenience they have thus to submit to. Many of us could record some remarkable example of longevity under these circumstances. But making due allowance for this class of cases, there are others whose lives, in spite of careful and efficient catheterism, are rendered miserable and useless by what they suffer in this way. For no sooner does urine collect in their bladders to any appreciable extent than they require to get rid of it. Many expedients have been resorted to, both in the way of drugs and operative procedures for the permanent relief of this condition, about which it would be impossible to speak in

detail. Let me, however, refer to a case (*JOURNAL*, December 24 1881; April 8, 1882), which I reported some years ago, where I tapped the bladder from the perineum through the enlarged prostate, quite independently of the course of the urethra, and where a cannula was retained in this position for two months with great comfort to the patient. He was a man about 80 years of age, and had suffered much from almost all the complications that an enlarged prostate is capable of giving rise to. But the future of the case was perhaps still more interesting, for he completely recovered and lived for several years, and in this I include the acquisition of the natural and unaided use of his bladder. Further, the explanation of this was found in the fact that during the time the cannula was retained in his bladder his prostate underwent a gradual diminution in size, which was noticed by all who had the opportunity of watching and examining him. His condition prior and subsequent to the operation proved a most remarkable and instructive contrast. I may add that this process has been repeated, not only by myself but by others, with very satisfactory results, and this tends in no slight measure to substantiate the views I have already advanced relative to the pathology of the disorder. And in connection with puncture through the prostate, I would like to say a few words in reference to cases where relief has been afforded under similar circumstances by an incision through the part similar in many respects to what is adopted lateral lithotomy. There can be no doubt that prostatomy, which affords a free and incontinent escape for urine from the bladder, has proved of very great temporary and permanent service in this class of cases.

At the meeting of the International Medical Congress at Copenhagen, in 1884, I took the opportunity of illustrating this method of treatment as an alternative in cases where the catheter was of no

avail in affording relief. And I will again refer to this operation, as sufficient time has now elapsed to enable me fairly to judge of the results obtained. The kind of cases to which this treatment has been applied are those of difficult micturition, due to the large prostate, which are not adequately relieved by the use of the catheter. This class, therefore, includes instances where there is unusual difficulty in introducing the catheter; where bleeding almost always attends the use of this instrument; where the withdrawal of the urine is followed by no sense of relief; and where the bladder, by the constant presence within it of pus and tenacious mucus, is converted into little less than a chronic abscess through which urine percolates. These, as well as some other forms of prostatic disease which might be included, are practically unrelievable by the catheter, and soon terminate in painful death. For the relief of such conditions various expedients for establishing a more or less permanent communication with the bladder, other than the urethra, have been practiced, namely, puncture above the pubes, by the rectum, and from the perineum, with the retention of a cannula or tube for the discharge of urine at these several points. Excellent in design as these proceedings are, they appear to me to fall short in one important respect--in not dealing with the cause of the obstruction. Two of these measures are open to objection, on the ground that the artificial canals are inconveniently placed as permanent vents, for it would seem desirable that the urethra should, as far as possible, be utilized and the external opening for the escape of urine be dependent. On considering various plans of treatment which had been applied under the circumstances mentioned to the obstructing prostate, it appeared to me that, by combining Cock's well-known and safe operation for opening the membranous urethra with Mercier's for dividing the prostatic bar from within the urethra, as will be presently noticed, it would be possible to ob-

tain precision with an increased freedom from risk. Such an operation was suggested by the late Mr. Guthrie, but I cannot find that he ever tested it in practice. The want of anæsthetics probably interfered with the progress of this as well as of other departments in surgery. Apart, however, from the operative procedure, it appeared to me, from some experience I have had in lithotomy and other operations on the parts constituting the neck of the adult male bladder, that the means which had been subsequently adopted for rendering the prostatic section thus made permanent were very inadequate. Further, I had been impressed with the advantage that followed the employment of suitable bougies as dilators in cases where the prostate threatened to obstruct micturition (*The Prevention of Prostatic Obstruction*. London: Churchill. 1881). Influenced by observations of this kind, I was led to attach considerable importance to the treatment immediately following section of the enlarged prostate with the view of rendering it more permanent than had hitherto been attempted. The necessity for prostatotomy having been determined by the symptoms presented in each case, as well as by physical examination, I will describe briefly the operation and after-treatment employed.

The former consists in opening the membranous urethra, from the perineum, on a guide, and introducing the finger within the prostatic urethra; the obstructing portion of the prostate is then divided a little to one side of the median line, partly by incision with a curved probe-pointed bistoury from within outwards, and partly by divulsion with the finger when the latter is feasible; a large drainage-tube is then introduced into the bladder. I attach considerable importance to the prolonged use of the drainage apparatus, as the object is to render the section of the prostate not a temporary one as after a lithotomy, when no such provision is made, but permanent. Hence, I am in the habit of retaining these tubes for six,

eight, or ten weeks. If, after such periods, on removing the tube, I find that a catheter can be made to enter the bladder easily along the natural route, or if, as it sometimes happens, urine forces its way, in spite of the drainage tube, along the natural passage, I regard these as indications that the object in view has been obtained. The perineal wound is then allowed to close. Let me briefly illustrate this by the narration of one of my earliest cases (JOURNAL, June 9, 1883).

A man, aged 63, came under my care in February, 1883, suffering from a large prostate, which was a constant source of irritation to him. The straining and forcing to urinate were but very slightly relieved by catheterism, and the only way he could get any sleep was by tying the instrument in, and this was generally followed by some cystitis. A fortnight after I saw him, I opened the prostatic urethra by a median perineal incision, and incised the prostate laterally. In doing this I found that, though the prostate was not very large, the orifice of the bladder was much obstructed by one of the nipple-like enlargements, which are sometimes more effectual in rendering micturition difficult and catheterism uncertain than some larger masses. A drainage tube was introduced and retained for four weeks, when it was removed, and the perineal opening allowed to heal. In this case, so perfect was the drainage that the whole of the urine escaped by the apparatus, and the patient was kept absolutely dry throughout. He remained under treatment for two months after the operation. Three months after he returned to report himself. There was a slight fistulous opening in the perineum at the lower angle of the wound, through which urine sometimes passed in drops during micturition. He could now hold his urine for several hours. Some slight enlargement of the prostate could be felt from the rectum, but this did not appear to have increased. A full-sized catheter was easily introduced without any hitch or

obstruction in the prostatic urethra, or at the neck of the bladder, being felt. This patient was seen at intervals for two years after the operation, and remained perfectly well. He has since neglected to report himself. Though I advised him to pass a catheter for himself occasionally, I believe that he did not do so.

Taking the case thus operated on, I have noted the following results:

1. The operation has merely afforded just such a temporary relief as the retention of a catheter or cannula would do as a drain, the condition of the patients, so far as recovery was concerned, being more or less hopeless at the time of operation.

2. The establishment of a permanent vent for the urine through the perineum. In two instances where this occurred the patients exchanged a life of misery for one of comparative comfort. The shorter route here proved most acceptable.

3. The substitution of easy for difficult catheterism. In one patient I thus operated on, though he had to use his catheter afterwards, so long as I heard of him, which was for over two years, he never had any difficulty in passing the instrument, and the bladder continued to be far more tolerant of urine than it had previously been.

4. The complete recovery of the patient, as I have just illustrated.

In discussions relative to the method of operation adopted, it has been pointed out that in some cases of this kind, it must be absolutely impossible to explore the whole length of the prostatic urethra with the finger. This circumstance has never influenced me, or seriously interfered with my carrying out the object in view. I never met with a prostate of such a size or shape as to prevent a staff or guide being passed into the bladder, and where a director will go a knife may safely follow.

But, to proceed, though a more or less permanent vent or opening for the urine, either above or below the pubes, may prove of value in some instances of urethral ob-

struction due to prostatic hypertrophy, where ordinary catheterism is useless so far as the amount of relief that is afforded, it is not applicable to all cases of this kind. For we must remember that in the former class of cases it is merely a matter of urethral obstruction that we have to deal with, whilst in others the symptoms are for the most part due to the irritation that is provoked in the bladder by the protruding masses of more or less degenerated prostatic tissue. The one is to the other, as well as to the bladder, as urethral stricture is to vesical calculus. The examination of specimens of hypertrophy in connection with their clinical history clearly points in some cases to the mechanical irritation which protruding masses of more or less prostatic tissue excite in the interior of the bladder. In connection with the treatment of such cases, where the individuals are not only absolutely useless, but most miserable, I am glad to see there are signs that something now may be systematically done for their relief. Heretofore we have been drawing for any experience we may possess in reference to this point upon what I would favor of direct surgical interference in these exceptional cases of grave prostatic obstruction and irritation, as the name of the growth, unlike cancer, renders a return of it improbable. I have now on three occasions deliberately removed to perineal section considerable portions of the hypertrophied prostate, with permanent relief to the patients; and I have no hesitation in recommending the adoption of this course in suitable cases, after, if possible, perineal exploration of the part with the finger. Now, three instances may seem very insufficient data for basing such recommendation upon; but it must be remembered that this is an exceptional remedy for the purpose of meeting exceptional circumstances. No operation of this or any other kind would in my judgment be warrantable so long as a man can keep himself comfortable with the use of the catheter, and therefore the percentage of cases where more radical measures

would seem to me to be indicated is really extremely small. But we must be provided for these, and though they are oftener met with in the aged and feeble, with reduced powers of repair, whose chances of recovery from any operation are reduced, such means as I am referring to must not be too hastily set aside in these days when the practice of operative surgery, especially in relation to the interior of the body, has been shorn of many of its dangers, and is altogether very different from what it was, even at the commencement of the present century. I am induced to make these observations partly because I think it would be a misfortune if operative procedures were extended to what I would speak of as ordinary forms of prostatic obstruction, and partly because I think the risk attending the removal of protruding portions of the prostate have been somewhat exaggerated, and thus surgeons have been debarred from undertaking operations which, in proper cases, have afforded both permanent and immediate relief. So far, I have been able to do all I desired in the way of removing more or less of the obstructing prostate by proceeding from the perineum, which I have always opened with considerable freedom. In connection with the subject of prostatectomy, or removal of portions of the prostate, under such circumstances as I have indicated, I would take this opportunity of expressing the interest with which I read the paper by Mr. McGill, and the no less instructive discussion which followed it, at a recent meeting of the Clinical Society. In this paper the author demonstrates by instances how portions of the prostate might be removed by scissors through a suprapubic incision. I am disposed to think that this, on still further trial, will be found the best way to deal with such cases, for it places the operator in view of those projecting masses of degenerated prostate tissue which invariable protrude toward the cavity of the bladder, and which really are the cause of the distressing symptoms of irritation which accompany them. Care,

however will be necessary, as I have just urged, in the selection of case for operation of this kind, it being distinctly understood that they are undertaken, not because the prostate is large, but because it has induced symptoms which cannot be alleviated in any other way. You may remove the prostate entirely, but this necessarily renders the individual incontinent for life. Lobulated masses proceeding from an hypertrophied prostate and isolated fibromas in the part, may thus be dealt with permanent advantage; but this is a very different thing to extirpating the prostate in its entirety, or seriously mutilating the muscular ring which under all circumstances is essential to the integrity of the bladder as a urine holder.

The following instance, which I will briefly relate, substantiates the proposition with which I opened this lecture; and, as it similarly bears upon the operative point now under consideration, I may consistently close my remarks with it.

In August, 1882, a patient, aged 64, came under my care with symptoms of primary carcinoma of the prostate, which caused bleeding, continuous pain, and irritability of the bladder. As no treatment afforded relief, I did a free median cystotomy, and proceeded with my finger and a blunt gouge to enucleate the prostate and the growth with it. In this I succeeded, with the exception of a small portion in front, which I could not get away. There was very little bleeding, and the patient made a good recovery, though he lost power in retaining his urine. Some degree of retentive power eventually returned, but it became necessary to provide him with an apparatus for controlling the incontinent escape of urine from the bladder. He lived for fourteen months after the operation, and was able to return to his work as a stevedore. He eventually died from a recurrence of the disease in the glands of the groin. I showed the specimen of what was removed at a meeting of the Royal Medical and Chirurgical Society,

in connection with a discussion bearing upon the subject.

FIFTY

LAPAROTOMIES.

BY

JOSEPH EASTMAN,

M. D.

Continuation of the Discussion of the Report in the January PROGRESS.

DR. EASTMAN said: Mr. President, I thank the gentlemen who have been sufficiently interested by my paper to engage in its discussion. At the same time, I must express my astonishment, that,

while I quoted a dozen or two words from Dr. Kieth, emphasizing the importance of the antiseptic principles, not its technic; these men ignore the main subject of the paper, (The surgical treatment of gall stones by laparotomy,) and engage in that old threadbare subject, the "pros and cons" of antiseptic surgery.

It seems strange to me that surgeons will continue in this day and age of the world, to even entertain the thought that there are two factions, one for, the other against antiseptic surgery. There is no difference between those contending for antiseptic surgery, and those content with "clean surgery." The only shadow of difference between clean and antiseptic surgery, is but a play on words, words harped upon in a childish way, until they have become almost as devoid of meaning as the argument of those engaged in the contest.

Lister, by scientific research, proved that all fermentation is molecular life; that fungoid growth in wounds, by poisoning the blood, caused the death of thousands that surgery would otherwise have saved. He and his disciples have since been preaching the gospel of clean surgery, and what blessings has surgery since wrought in that great lymph sack, the peritoneum, where the products of fermentation and putrefaction found such difficult escape and ready absorption.

What is the difference if in the use of chemical agents which destroy micro-organisms, we advance a step farther and say,

prevention is better than cure, or that the prevention of fermentation—"sterilization," "asepsis," "clean surgery" are better than allowing fermentation and putrefaction to swarm with microbes, and then seek to kill them with chemical agents?

Dr. Wathen says Mr. Tait condemns antiseptics. I say he is one of the most unpromising antiseptic surgeons. He has advanced beyond killing germs and is reaping the rewards of preventing their birth by *allowing* no fermentation, no putrefaction. Why does he allow no one to clean his sponges but his wife? Why allow no decay-ing organic substance in his private hospital? He knows that no sooner does one organic substance die, than it begins to live again in molecular germ life, the prolific offspring of fermentation and putrefaction. These germs are from within the body, but may be carried in the air. Some get blinded by the technic of antiseptic surgery. While wandering in their blindness they forget the broad principles enunciated by the great masters like Kieth. What use would there be in the sterilization of every instrument used in one of the pelvic abscess cases I have reported, if we forget that pus cavities after being exposed to the air become a hot-bed for the production of germ life through fermentation and putrefaction? Of what use would all the antiseptic dressing be over such an abscess, as compared with perfect drainage—that precious safeguard against absorption? Let our antiseptic vision encompass all things which in any way make our patients secure against fermentation and putrefaction. "The letter" of Mr. Lister's antiseptics "killeth" germs, but the spirit of his law "giveth life" to our patients, by preventing fermentation and putrefaction in wounds, essential conditions to the existence of germ life.

My friend, Dr. Comingor, who has stood at the head of the surgical profession of Indiana, since the death of the lamented Bobbs, says he is satisfied with clean surgery. I know he attains cleanliness, not,

however, with water alone, but is a great advocate of alcohol as a wash for wounds, which is one of the best known antiseptics.

We can all agree that clean surgery is what we aim at. How shall we obtain it? By water? No; it cannot be thus secured. Suppose one of these gentlemen drops blood, pus or serum on his clothing, or gravy on the lapel of his coat. Will water remove it? No, try soap, ammonia, ether, benzine. Ah, it takes chemicals to secure cleanliness! The difference between those favoring, and those opposed to antiseptics is largely imaginary,—a play on words. Those doctors who claim such results from water alone, remind me of a preacher who dreamed he was dead and in heaven, and while pacing up and down the gold paved streets of New Jerusalem, met good Presbyterians, Lutherans, Methodists, etc. He asked the good angel who had him under his wing, how they all got there. He answered, "By faith, work, good deeds." He then asked why he had met none of the Campbellite faith. "Ah," said he, "they *are coming*." The angel was asked why the delay. "Why," said he, "they are tugging and aiming to reach heaven by water!"

Dr. Wathen says my statement that laparotomy should not be performed, except in special hospitals, needs no comment, for in the first place I did not make the statement, and in the second place I made the much needed modification to which he refers. In Dr. Wathen's quotation of Dr. Kieth's per cent. he will surely have to "take water," even though he is a Kentuckian, for Kieth surely never had a mortality of 65 per cent. from any list of operations under any circumstances. Now, with reference to the report of Dr. Joseph Price. His report can never be taken as standing against well built special hospitals, so conducted that they can be made clean as our hands and instruments. The nurses he or Dr. Wathen could "pick up" to care for such cases with such surroundings are not to be compared with those well paid nurses who have become familiar

with the details of the management of scores of such cases; and with the particular methods of the operator she follows. Mr. Tait trains his own nurses. Dr. Sutton said in his address before the American Medical Association at Washington, that many trained nurses were unmitigated humbugs; they are trained to do too much in too many ways, often every way but your own particular way. I am sure Dr. Price has had some experience similar to my own.

Dr. M——— asked me to see a lady who had a pelvic abscess which had ceased to discharge by rectum, the abdomen becoming very much distended. I made laparotomy in her room, in the rear of a saloon, removing a pint or more of pus from broad ligament, by a coal oil lamp. A urachus was in my way, and a spirt of urine came up into my hand. I placed one of my nurses to care for the case, the brother promising to pay her, which he denied the second day. The husband got out of work, money, and coal in cold weather, and in two days the nurse had nothing to eat, the neighbors bringing in a little soup for the patient. A quarrel between different members of the family on two occasions came near costing the patient her life from fright. Everything had to be paid for or furnished by the doctors, or the patient would have starved or frozen. To save time, money, and what was of more consequence, the patient's life, we put her in an ambulance and brought her to my private hospital where we could command the situation. If there is nothing in the surroundings of the patient, and the care she gets after the operation, then there is nothing in the mode of operating.

Dr. Wathan says private hospitals are expensive. I beg leave to differ. A clean room and a competent nurse are the essential factors.

Dr. John Homans reports 384 laparotomies, with wonderful success, and says most of them were done in his private hospital, which is an ordinary dwelling house.

Dr. Matthews must have given marked

attention to my paper, since he confounds what I said in connection with my clamp in hysterectomy, and the removal of eight inches of cancerous intestine by enterectomy. He also failed to catch my emphatic statement that there was almost *complete intestinal obstruction*; that therefore the operation was one of emergency, not of election; that colotomy with artificial anus, or the operation I describe were the only alternatives. That cancer is a local disease, which only becomes constitutional by secondary contamination, a majority of our recent text books attest; and this being so, early surgical interference offers cure in many cases, comfort to the doomed sufferer in others. A cancer hospital has been recently established in New York. Dr. Fordyce Barker in his address on the opening of this institution says that while cancer is on the increase, our surgical means of controlling it have been so extended that we have much encouragement.

Early surgical interference in cancer stands approved to-day by most operators, and while Dr. Matthews understands his specialty, he fails in his comprehension of the literature or practice of the specialty of abdominal surgery, and therefore it would be well for him to be more cautious how he charges others with doing unwarrantable operations, and thereby shortening patients lives.

ACTION OF CARBOLIC ACID.

BY

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Read to the Mitchell District Medical Society, at Seymour, Indiana, December, 16, 1887.

Carbolic acid is a superficial escharotic; when first applied to the skin or mucous membrane, it produces a burning sensation of a short duration, and a whitish eschar is formed; the eschar being very superficial. It is also a

local anesthetic of some value, reducing the sensibility of the part to such an extent as to allow of free incisions, almost without pain.

It is said to be very destructive to the bacterial forms of life.

I have used it in combination with iodine in typhoid fever frequently, with good results. It is used in various ointments, and when combined with iodiform destroys the unpleasant odor of it, thus enabling us to prescribe that very important drug without being so offensive to our patients. It is used to arrest certain kinds of vomiting. It is a good disinfectant, and is used as an antiseptic by many of the most successful practitioners.

But I desire to call attention more especially to its properties, or power of arresting acute adenitis and the various glandular enlargements, arresting or dispelling them almost immediately.

I have recently had an opportunity of testing its utility in this line, by using it as a local application in six cases of syphilitic bubo.

The 1st case was a boy 16 years old, who called at my office, October 5, 1887. On examination I found soft chancre on the prepuce; no constitutional symptoms; noticed enlargement in right groin 5 days before calling on me. It was at my first examination half as large as a hen's egg. Prescribed sub-nitrate of bismuth and iodiform to be dusted on the chancroid. I applied in about six hours made a second application. I had him call the second day, and found the glandular enlargement entirely gone.

Case 2. A man, 23 years old, a laborer, called on me October 17, having a well-defined, hard chancre, constitutional symptoms, enlargement in right groin, nearly as large as a hen's egg. I prescribed the usual treatment, and applied the carbolic acid to the bubo. I had him call again in 4 hours and I made a second application of the carbolic acid. On third day had him call again; found bubo had gone on to supuration; evacuated the sac and dressed with antiseptic cotton and vaseline and had him call every day for redressing. In a week

the bubo had ceased to discharge and the wound was healed.

The next three cases were all similar and less important, the chancres being soft and the enlargements had only existed a few days, being very small; applied the carbolic acid locally and had no further trouble with them.

The sixth case, however, which came to me November 21, is a very interesting one. A man, 32 years old, had gonorrhea and syphilis both; had a well defined, hard, indurated chancre; had enlarged cervical glands, also glandular enlargement in left groin. I tried the iodine and compress, etc., etc., for the inguinal gland, but it continued to enlarge, for about 8 days. The enlargement was about the size of a hen's egg. On examination I found it so near the point of supuration, that I was unable to say positively whether supuration had begun or not. I decided to apply the carbolic acid and give it a last chance, any way; applied it with camel hair brush; had patient return in one hour, and made a second application and a third one in another hour, and ordered him to lie quietly that day and night; saw him the next morning, and you could not have told from any enlargement that he ever had a bubo. The swelling had entirely disappeared. It had proved a very efficient blister, too, as the epidermis was entirely gone from the site of application, I dressed it in the ordinary way; have seen patient several times recently, and he seems entirely well.

HYPERPLASTIC

BLEPHARITIS.

The hyperplastic condition which often constitutes the mild form of what is commonly called granular lids, begins in the nasal membrane, and with the closure of the inferior orifice of the nasal duct, both the mucus and tears accumulate and remain upon the conjunctival surface until some of the simple atmospheric bacteria are colonized, thus forming a perpetual source of irritation leading to hyperplasia.

EYE, EAR, AND THROAT.

CONJUNCTIVITIS.

BY

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A. M. M. D.,

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Remarks made to the Mitchell District Medical Society, at Seymour, Ind., Dec. 16, 1887.

Reported for Progress.

In considering the subject of conjunctivitis, it is necessary to define the term according to its pathological and clinical features. No form of conjunctivitis should be regarded as such unless the membrane furnish the evidence of morbid cell action, which gives to it a specific and distinct character.

McKenzie fifty years ago divided inflammations of the conjunctiva according to the nature of the discharge from the surface of the inflamed membrane, namely: The mildest type was called *mucous* conjunctivitis, because it was attended, in addition to the ordinary hyperemia, by the presence of hyper-secretion of mucus. In this case the morbid cell action was limited almost entirely to an increased degree of activity; whilst in the next grade, which he termed *muco-purulent*, there appears in the discharge, not only an abnormal quantity of mucus, but this is mixed with some pus. Now, when McKenzie's classification was devised, there was no means of determining the difference between pus cells and leucocytes in the blood serum, which might flow out from any abraded surface upon an inflamed mucous membrane. The purulent type of conjunctivitis was described as fulfilling all the requirements of a gonorrheal inflammation, which, though local in origin and extent, yet violently intense in character, attended, not only by copious formation of pus upon the surface of the membrane, but extensive excoriations, and an especial tendency to necrosis of the cornea. Owing to early and extensive oedema of the ocular conjunctiva, it was long thought the corneal implication depended upon pressure and occlusion of the juice canals which were sup-

posed to control the nutrition of the cornea. Recent experiments, however, tend to show that large numbers of infected leucocytes from the capillary loops of the conjunctiva, are driven into the juice canal, and occlude them by multiplication of their contents; that in this way alone necrosis of the cornea in violent or acute purulent conjunctivitis is brought on.

Another type of conjunctivitis, not described by writers, is the membranous type, not the diphtheritic, but the pseudo-membranous inflammation, which is not attended by active purulent excretion; on the contrary, a small amount of coagulated mucus appears in the retro-tarsal folds of the conjunctiva, whilst the mucous surfaces of the lids are covered by a pseudo-membrane, easily dissolved in a saturated solution of chloride of sodium, and which is readily detached after the application of a solution of borate of sodium, carbolic acid, or bichloride of mercury. This is the type of disease, which, when astringent applications are made, assumes the form and appearance of a true diphtheritic membrane. Of course, diphtheria being a specific contagious infection, could not be developed by any medicinal agent which did not contain the germs of the disease itself. Therefore, it is manifestly impossible to convert the pseudo-membranous conjunctivitis, which assumes all the characteristics of an acute catarrhal inflammation, into a specific diphtheria by the application of solutions of alum, tannin sulphate of zinc, copper, or other astringent. This explains very readily the difference in the results of the treatment of the diphtheritic conjunctivitis observed in Holland and some other portions of the continent of Europe and those cases observed in the United States. Recent experimental observations tend to show that the so-called mucous conjunctivitis may be due to a prolonged exposure of the eyes to high winds carrying minute particles of foreign matter; to prolonged loss of sleep, with the ciliary inflammation which determines the

obstructed circulation of the blood in the iris and ciliary body, and, consequently, an overloaded state of the sub-conjunctival tissues, brings on a sufficient degree of increased heat to cause abnormal rapidity in the multiplication of the so-called gland-cells in the walls of the mucous follicles; hence, hyper-secretion of mucus exists. In that type which is called muco-purulent, I have repeatedly demonstrated the presence of the *staphylococcus aureus*. The cold boiled potato may be employed with the usual precautions for detecting the presence of the staphylococcus in the atmosphere in dwellings and other places. Prolonged exposure to an air loaded with this coccus, will be likely to engender the so-called muco-purulent conjunctivitis; and, by the way, it may often be observed that the schneiderian membrane is first affected, and especially in persons who breathe habitually through the mouth, thus allowing the coccus to remain a long time on the surface of the nasal membrane. The presence of a slight abrasion is almost sure to become the site of a young colony of cocci whenever exposed to an atmosphere containing them; whilst purulent conjunctivitis may be directly traceable to gonorrhœal infection, it is not always possible to account for it. There is this one peculiarity, however, that the gonococcus of Neisser may easily be demonstrated in the pus from any actively inflamed mucous surface. This coccus, like the one before-mentioned, will grow rapidly in mucus corpuscles, young epithelial cells, in lymph corpuscles, or leucocytes. Hence, it is that in some cases of gonorrhœa, suppurative synovitis has been found in neighboring joints. Like the contagion of the chancroid, it travels along the lymph channels from the original site of development to the nearest lymphatic gland, and so on until it reaches the serous membrane of a neighboring joint. It is precisely in this manner that the pleura becomes infected from purulent bronchitis. We have, therefore, but two true types of contagious conjunctivitis to consider, one

due to the presence of a microbe which causes suppuration in ordinary open wounds; the other, a purely gonorrhœal inflammation.

For centuries it was the custom to treat all acute inflammations of the conjunctiva by caustic applications, increasing the intensity of the application as the disease became more chronic; and in the very chronic cases to apply, as Mr. Dixon recommended, fuming nitric acid, with a glass brush, to the lining of the everted lid. The purpose of this application was to destroy the hypertrophied papillæ. They are seldom absent in a case of chronic, purulent conjunctivitis, and, nearly all chronic cases of purulent conjunctivitis were so treated. It had been for more than half a century the universal practice to treat this condition with solutions of nitrate of silver, varying in strength from ten grains to the ounce, to a saturated solution, some preferring to use the solid stick, others, a mitigated form of it. Since we have learned something more of the ætiology of these local inflammations, a more rational plan of treatment has been introduced. No one now thinks of making so severe an application as would tend to destroy either hypertrophied papillae, or even the life of a microbe, upon the presence of which purulent conjunctivitis depends. On the contrary, the object now sought is the most frequent and thorough clearing away of the infected matter so as to dislodge the microbes before they have had time to colonize, on the one hand; and, to make such applications as will thoroughly sterilize the juices upon the surface of the membrane, on the other; taking care always to avoid making any application which shall add in the least degree to the irritation already present. It is the practice now to apply soothing agents; and, whilst sterilizing the juices and fluids on the surface of the affected membrane, at the same time sooth the irritated exposed nerve terminations. To Prof. Henry W. Williams, of Boston, Mass., the greatest credit is due for bringing about this

great reform in the treatment of local inflammations of the conjunctiva, although he did not stop to consider the *modus operandi*. In the charitable institutions of Boston, Prof. Williams instituted experiments to determine the relative virtues of nitrate of silver, sulphate of copper, sulphate of zinc, and on the other hand; such agents as the borate of sodium and the chloride of sodium. He soon demonstrated the superior value in therapeutical effects of the borax and chloride of sodium over all other applications with which he experimented. He has been roundly abused for his pains; but, thanks to the growth of independent experimental inquiry, his judgment is at last vindicated, and he becomes the veritable apostle of a new creed, not to say a benefactor of the human race. The late Prof. Isaac Hays, of Philadelphia, as far back as 1856, published the results of his treatment of a number of cases of purulent conjunctivitis with a solution of chloride of sodium, and announced its great superiority over the nitrate of silver, or any of the other stimulating astringents with which he was acquainted. This was really the very first well-recorded series of clinical observations in the use of chloride of sodium in cases of gonorrhœal ophthalmia, yet it attracted little attention, and, like many other original observations, passed into oblivion, to be finally rescued after a prolonged series of pains-taking experimental observations on the part of a large number of gentlemen operating entirely independently of each other.

POLYPI

NASALIS.

BY

JACOB S. COLEMAN,

M. D.

FORKS OF ELKHORN, KY.

The following case of nasal myxomata illustrated to what extent they can multiply, and how they cannot only destroy the mental tranquility, but seriously affect the health of the patient.

Mrs. T., farmer's wife, white, aet 22,

consulted me in May, 1887, in regard to the condition of her nose.

Otherwise healthy, she has been afflicted about fifteen years with mucous nasal polypi. Twelve years ago she underwent an operation for their removal, but was only slightly benefitted, and since then has suffered more than ever by their presence. The loss, they had occasioned of her personal beauty, rendered her low spirited. She had not breathed through her nose for more than ten years.

The nose was swelled to about twice its normal size, and gave the face a very unsightly appearance. Protruding from the nostrils and hanging down upon the lip were numerous dull-gray offensive looking tumors, covered with a thin, slimy, foetid mucus. Close inspection revealed both nasal fossæ densely packed with them. They were of many sizes and shapes and possessed the usual characteristics of mucous polypi of this region, being soft, elastic, mobile and hygroscopic. As far as could be discerned the majority sprang from the turbinated bones, several large ones, however, grew from the septum. They possessed the ordinary slender pedicle of this kind of growths. The vault of the pharynx as well as the nasal chambers, was stuffed with them, and by pressure on the mouth of the enstachian tubes they had rendered the patient's hearing very dull. She suffered with almost constant headache, and her voice had undergone the usual nasal modification, aggravated to some extent by her deafness. Her throat was dry and sore from constantly breathing through the mouth, and she was troubled with a more or less persistent cough. Altogether she was a pitiable looking object.

During the following summer I completely and almost painlessly removed all tumors from both sides of the nose with Jarvis' wire snare ecraseur. On the left side, several of very large size occupying the pharynx and suspended by their pedicles from the nasal chamber proper, gave me no little trouble in their extraction. Finally, by means of a

blunt hook with a long handle, I succeeded in drawing them forward into the nose, when their removal was but the work of a few minutes. The after treatment consisted in the application of pure chromic and carbolic acids to the bases of the tumors, and the correction of a rather severe catarrh which remained after the polypi were removed.

In all, between fifty and sixty tumors were removed from this patient's nose. Some were small, but the majority were of considerable size. They had been very closely packed and showed many diversities of shape from mutual compression. The headache diminished, *pari passu*, with their extraction, and the nose externally resumed its normal proportions. At the present writing the sense of smell has not returned, but the cough, deafness, and character of voice, have improved.

The following consequences accompanied the existence of these tumors in the nasal cavities: (1) Swelling of the nose, (2) Loss of sense of smell, (3) Deafness, (4) Modification of the voice, (5) Oral respiration, from complete occlusion of nose, (6) Various reflex disturbances, as cough, headache, etc.

INTRAOCLULAR
INJECTION OF
ONE HUNDRED
CATARACTS.

BY

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The question of intra-ocular injection in the extraction of cataract, brought by me before the profession in 1884, has occupied so much attention, particularly on the Continent, that I embrace the opportunity now presented of stating my views and my most recent experience before the representatives of ophthalmology of various nationalities.

From the time I began the practice in 1884 till the present time, I have used intra-ocular injection in every case in which it was indicated. I have followed generally

the lines laid down in my address to the Ophthalmological Section at Belfast in 1884. My views at that time are my views now. I have proceeded cautiously step by step, operating on cataracts less and less mature, until I have reached the practical point of extracting lenses which are sufficiently clear to admit of patients going safely about, but presenting too much opacity to enable them to follow their occupations. I consider it a blemish on ophthalmic surgery that patients with opacities of the lens requiring very many years to develop to anything like maturity, as hitherto understood, should be obliged to go about doing nothing, losing health, strength, spirit, and, if without means or helping friends, to become inmates of workhouses or private charitable institutions.

I purpose now presenting to you the statistics of the last 100 operations for cataract, of all degrees of maturity and immaturity, in which I used intra-ocular injection, and I would remind you that you have no analogous statistics. There is a large number of cases of striated cortex with clear triangles interspersed, and of cases in which the surgeon could see, more or less, the details of the fundus. All these would be rejected by the surgeon practising ordinary methods as unsuitable for operation.

Of the 100 cases there were 81 cases of idiopathic cataract uncomplicated, 5 complicated by affections of the eye or its appendages, and 14 traumatic. Of the 81, 13 patients before operation could see to go about, and could count fingers from two to fifteen feet, but had not been able to work for a considerable period, and the fundus could be seen with more or less distinctness; 9 had striated cortex with triangular areas transparent; making in all 22 of various degrees of immaturity. In the 81 cases there were 8 escapes of vitreous, all slight but one, and of these only 2 occurred during injection. The proportion of escapes of vitreous, though a little more than usual, has, therefore, no bearing on intra-

ocular injection. As to the sequences of the 81 operations, there were :

1. One case of panophthalmitis occurring three weeks after operation. On the sixth day I opened the eye, expecting everything right, there having been no complaint. I found vitreous projecting in wound enclosed in unruptured hyaloid membrane. Bandage for two weeks having been continued without material improvement, I cut off projecting vitreous; panophthalmitis supervened. The operation had been perfect in every respect, and I think the prolapse occurred from some injury to the eye.

2. Three cases of pretty severe iritis; fair vision still remaining, and capable of improvement. One counts fingers at four feet, another at one foot, and another at six inches. The first was owing probably to syphilis and rheumatism, and the other two to impaction of iris in angle of wound.

3. Three cases of irido-cyclitis and choroiditis. *a.* One in case of patient (in whom double extraction was performed) who would not allow bandage to remain on for six days after operation. Fortunately only one eye suffered, and when he left hospital the eye was quiet and field good. *b.* Another in case of old congenital cataract with thickened capsule in man, aged 30. Removed thickened capsule with forceps; vitreous began to come; used scoop syringe, as I have sometimes done successfully in escape of vitreous, but in this instance was obliged to leave considerable part of lens behind. An iritis with a nodule of pus and inflammation of ciliary region developed after some weeks. Made a section; removed remains of lens with syringe with complete relief. Saw him lately, when I found eye perfectly quiet, perception of light good, and tension normal; but as other eye, also operated on, had good vision, I did not propose further operation. *c.* The third in case of man, aged 70, very nervous, and accustomed to stimulants in the morning, as I learned afterwards. Operation normal. On sixth

day wound unhealthy, showing a slight focus of infiltration at one part of cornea, and a little pus in anterior chamber. Iris became involved; no pain. Treated by stimulants and hot steeping. Field of vision good, and could see bulk when I saw him a month ago. I have not seen him since, and cannot give further particulars.

Having entered into these details regarding the whole 81 cases, I shall refer in particular to the 13 very unripe cataracts.

CASE I.—Female, 65. (Counts fingers at 2 feet before operation); after operation reads 0.5 at 8 inches with 18 D. S.

CASE II.—Male, 63. (Before operation counts fingers at 1 foot, pupil undilated); reads 0.8 at 8 inches with 18 D. S. after operation.

CASE III.—Female, 70. (Before operation counts fingers at 15 feet); after operation reads 0.5 at 7 inches with 18 D. S.

CASE IV.—Male 61. Opacities in lens ill-defined, slight central haze of cornea; sees No. 3 Sn. at 4 inches; can see disc; extensive posterior staphyloma. After operation reads 2.25 Sn. at 4 inches with 16 D. S.

CASE V.—Male, 57. Before operation counts fingers at 3 feet; after operation reads 1.75 with 18 D. S.

CASE VI.—Male, 51. Able to go about. After operation, iritis. Syphilitic and rheumatic subject. After operation counts fingers at 4 feet; iridectomy indicated; other eye perfectly successful.

CASE VII.—Male, 63. Before operation counts fingers at 2 feet, can see large part of fundus; after operation sees 0.5 at 5 inches with 18 D. S.

CASE VIII.—Male, 55. Sees 1.75 at 3 inches, very myopic always, vision same for years, can see fundus; after operation sees 0.6 at 4 inches with 18 D. S.; will probably be further improved by tearing capsule. After tearing capsule he came to see 0.5 at about 10 inches with very weak convex glass.

CASE IX.—Male, 61. Iridectomy per-

formed by another surgeon four years ago, probably for simple glaucoma; always very myopic; small radiate opacities only; can see fundus. After operation reads 1.75 at 4 inches with 16 D. S. The vision was only slightly improved by operation; slight irritation and fluctuation of tension for a long time after operation; slight haziness of cornea.

CASE X.—Male, 55. Obligated to give up work a year ago; left eye simply a central cloudiness and some peripheral streaks of opacity; can see fundus. After operation sees 0.5 at 8 inches with 18 D. S.

CASE XI.—Same patient. Right eye same condition; find he can read with great effort smallest type but could not see far off, which he is required to do for his work, and he desired operation. After operation and subsequent needling of wrinkled capsule sees 0.5 at 8 inches with 18 D. S.

CASE XII.—Male, 50. Not able to work for four years, and vision stationary; can see fundus; superficial radiate opacities. On injection some vitreous came with transparent cortex. After operation could read small type, but I have no note of the exact particulars.

CASE XIII.—Female, 64. Other eye operated on previously successfully; can see fundus, but in a haze. On sixth day after operation severe pain, which I found owing to impaction of iris in one angle of wound; removed incarcerated iris; eye became quiet, but requires iridectomy. Count fingers at six inches.

Several of these thirteen cases represent the ultimate point to which ophthalmic surgery in the matter of cataract operations can be expected to reach.

As to the other nine cases of immature cataract, with striated cortex and transparent segments, the results were all excellent.

I have nothing to remark about the five complicated with serious affections of the eye and its appendages, save that in one complicated with a chronic dacryocystitis,

which latter affection was treated in the usual way for a week before operation, the eye was lost from suppuration of the cornea, notwithstanding thorough antiseptic treatment before, during, and after operation, including injection of M. Panas's solution into the interior of the eye, and application of Galezowski's gelatine antiseptic disc over the wound.

Of the fourteen cases of traumatic cataract, a considerable number were immature, but I have only to note one mishap—namely, a panophthalmitis starting from the wound, notwithstanding thorough antisepticism, so far as it could be carried out. The patient was beyond control. He would not allow bandage to remain for ten minutes at a time after the operation.

I have entered into the particulars because without them bare statistics would be very misleading. Of the three cases of panophthalmitis in the whole hundred, not one can be attributed to the injection, and not one could have been avoided except by operating, or by putting the patients under a sort of prison discipline. Of the three cases of iritis in the 81 vision may be improved, and of the three cases of iridocyclitis I can only speak definitely of one; but assuming that the other two, which I have not seen for some time, have taken the worst form, I should only have a total of 3 complete losses in 81 operations on idiopathic uncomplicated cataract, including the 22 unripe.

I shall now touch very briefly on some general questions.

1. Is injection of distilled water previously boiled and reduced to the temperature of the body attended with any appreciable danger as regards the introduction of germs within the eye? In all cases except thirty (in which I injected M. Pansa's solution), I have used distilled water, and in not one case have I seen any evidence of intraocular inoculation.

2. Is injection dangerous because of the force employed to remove cortex? As

may be observed from the notes of unripe cataracts operated on, the water must have exercised considerable force to clear out transparent and sticky cortex, yet the results are quite as good as in the ordinary operations for mature cataract.

3. Is the injection of M. Pansa's solution desirable? I have injected it only 30 times in 100, and therefore cannot speak very decidedly about it. I would remark, however, that in two cases it did not prevent suppuration of the cornea and panophthalmitis; true, in one case there was an affection of the tear passage, and in the other the patient was unmanageable. I fear it has an influence, though it may be a small one in causing iritis. I have seen extensive posterior synechiæ and muddiness of posterior surface of the cornea arise from its injection into the anterior chamber after removal of a cyst of the iris. At any rate, I have found no advantage from it, and have abandoned it.

4. Is the injection of M. de Wecker's solution of eserine desirable? I have injected it nine times, and I have used the solution a considerable number of times by simply pouring it into the conjunctival sac, and easing the pressure of the eyelids on the ball, so as to facilitate the entrance of the solution into the anterior chamber, and I have found that the latter mode is quite as effectual in contracting the pupil as the former, indeed, perhaps more so. I do not apply the bandage till the pupil is well contracted. I have noticed in some instances some adhesions, and have been obliged, because of pain, occasionally to apply atropine; but I have so far found no positive disadvantage from the eserine. I wish to do strict justice to M. de Wecker's eserine treatment, and therefore add that in one respect I have not followed his advice, namely, in removing a piece of the anterior capsule. I have simply torn it freely.

5. Should force be used in the injection? I consider it impossible to remove the cortex in the majority of cases of immature

cataract on which I operate without force. The more cortex left behind, the less likely is force to do harm, and the more it is required. I am never troubled because of the quantity remaining after the nucleus is expelled. It is a mistake to suppose that one injection—at least by the old syringe, whose piston was too easy—is always enough. Sometimes two or three are required; but it is probable, with the improved piston of the new syringe, the clearing out of the cortex may be more easily accomplished. Experience teaches the surgeon what he can safely do. He should use injection at first in cases in which he is not likely to experience any difficulty; then take up cases of striated cortex not far from being ripe; and, finally, cases of very slowly progressing cataract, such as those of which I have given particulars. In this way he will acquire confidence and the dexterity born of experience.

6. Allied to the question of force is that of the instrument to be used. One of the most striking things about this question of intraocular injection is the number of instruments devised since 1884. I at first used the force of gravitation, and changed to injection. M. Wicherkiewicz uses the force of gravitation from his "undine," and the force may be considerable. M. Pansas describes his instrument as follows: "*L'instrument laveur du globe est analogue à un compte-goutte muni d'un tube en caoutchouc durci.*" M. de Wecker's consists of a body like a small sized ear speculum, the wide extremity being covered by india-rubber, and the small end having a silver terminal to introduce into the eye. He says: "*C'est évidemment le meilleur instrument de contrôle car la pulpe si sensible du doigt indicateur appliquée sur le tambour permet de régler avec la plus grande précision le degré de pression qu'on veut exercer pour introduire le liqui de ainjecter dans la chambre antérieure.*"

M. de Wecker also points out as an advantage of his instrument and method, that

the danger of suction is avoided, and the tension of the eye estimated and regarded. If the tension is high, the small aperture in the nozzle of his instrument may be obstructed. I hold that the instrument should be so constructed and capable of exercising such force as to clear out the remains of the lens, without regard to tension. The very small instruments, with small capacity, with tiny nozzles and small slits and holes in the sides and in front are insufficient to cope with ease with unripe cataract, but are doubtless useful in washing out the anterior chamber and interior of the capsule in ordinary operations. My instrument is so constructed as to yield a free and broad flow regulated in its force by the finger on the piston, just as the force in M. de Wecker's instrument is regulated by the finger on the india-rubber covering of his *compte-goutte*. The finger is just as delicate a regulator of force in one case as the other.

In the new instrument I present to you you will find many changes. There are two bodies of syringe of different lengths, and various nozzles of different lengths, widths and forms to suit different hands and sections of different position and size. I have, therefore, provided short nozzles of various widths and lengths. The chief idea to be borne in mind is, that the various nozzles are only the channel for conveyance of the water power, and are not to be regarded as ordinary scoops or levers, and are therefore not to be considered as agents for exercising the ordinary mechanical force of scoops. The terminals with a little ledge at the end, like that of Critchett's scoop, may be used as scoops, but they are only meant by a little to and fro movement, and not by a leverage action, to aid the removal of masses of adherent cataract set in motion by the water. A new form, with a scooped out part at each side, is meant to break the force of the water in cases requiring little force.

7. Should iridectomy be performed? In one of my papers I stated that I considered iridectomy should be performed in all cases

of intra-ocular injection. M. de Wecker points out, however, that intra-ocular injection has a marked influence in causing contraction of the iris, and therefore ensuring a greater immunity from the old blot in the old flap operation—prolapsus of the iris. He adds to the beneficial effect by using a solution of eserine instead of plain water. He, however, considers iridectomy necessary in immature cataract. I entirely agree with his view as to the restriction of iridectomy, and now I always operate on cataracts, mature or nearly mature, in patients on whose obedience to instructions reliance may be placed, without iridectomy; but in very immature cataracts with iridectomy. I do not now, as a rule, inject eserine into the eye, but instil it freely, as I have already stated.

8. General applicability of intra-ocular injection. A point which cannot be too much impressed is the wide sphere of usefulness of intra-ocular injection. It may be used in every sort of extraction except the extraction of the lens in its capsule; for example, in the flap operation, old or new, with or without iridectomy; in Græfe's operation, in simple linear extraction, as a substitute for the old spoon extraction and the suction operation. It may be applied in unripe idiopathic cataract and unripe traumatic cataract. Its universal applicability is one great feature. The gentle, moderate, and diffused power of a fluid is substituted for leverage instruments and pressure outside the eye. It rejuvenates old methods discarded, unsettles old notions about ripeness of cataracts, and brings us nearer the goal of the surgeon—to give speedy and effectual relief to sufferers hitherto doomed by imperfect methods to long years of delay and misfortune.

I do not wish to say that any one of all the instruments devised for intra-ocular injection is perfect. I wish to emphasize the method as that of the removal of cortex by the force of a fluid. The operation for cataract is a purely mechanical procedure, and I hope that year by year we shall more and more perfect our appliances, and that all the instruments we have hitherto devised may be replaced by others more effectual, and that by our labours we shall increase the sum of human happiness.

OBSTETRICS AND GYNÆCOLOGY

ANTISEPTIC

METHODS IN

MIDWIFERY.

BY

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Read to the Boyle County
Medical Society, Dec.
28th, 1887.

*Mr. President and
Gentlemen :*

I undertake the presentation of this question with some degree of diffidence, so deeply am I impressed with its significance and a knowledge of the fact that in the brief time ac-

corded me, I will be unable to deal with it in a manner commensurate with its importance.

It can be safely said that the methods presently to be described, or some modifications of the general principle on which they are based, have taken a stronger position in modern medical science than any of the improvements in the collateral branches.

The methods are so simple that their application is readily intelligible and the principles underlying them so rational that, when once explained, they impress themselves upon us as an intuition. As prefatory to what will soon follow a brief resume of the history of the unfolding of the germ theory of disease and its application to the treatment of wounds will be necessary and I hope interesting.

The belief that atmospheric air contained myriads of organisms capable of indefinite multiplication is centuries old, but it remained for the acute observation and brilliant genius of Louis Pasteur to actually demonstrate the truth of this conception. By a series of ingenious experiments it was proven that decomposition instantaneously began with exposure of animal extracts to atmospheric air. If the air was excluded or rendered sterile by passage through heated chambers, or certain chemicals, these fluids remained pure indefinitely. It then followed, as a logical sequence, that a solution of continuity of an animal surface

furnished a culture bed for development of these organisms and that their presence and activity were of necessity harmful. This knowledge having reached this point in its development, the philosophical mind of Joseph Lister, an Edinboro surgeon, grasped the idea at once and set about devising a method of purifying every wound, either accidental or intentional, that came under his care. The blood and tissues of human body invited the presence of this atmospheric life and furnished them a suitable home wherein to dwell and multiply.

To exclude atmospheric air was impossible, but to free the wound of this active, poisonous life, seemed to offer some hope. What followed is familiar to every one present and need not be recounted here; and out of it has grown a principle which with this application forms the greatest advance in surgery, since the discovery of anæsthesia.

Viewing, then every labor as a traumatism we can see wherein this principle of Listerism can find a fluid for its utilization. The placental site is an open wound and the mucus and cutaneous surfaces of the parturient canal are subject to lacerations during labor and furnishes a suitable habitat for their microscopical life.

All atmosphere free from their germ life exists only in theory, and an attempt at complete asepsis is chimerical.

There is then left open to us another point of attack, and what has been accomplished and what it promises for the future is the object of this paper.

A great many views of the nature of puerperal fever have been held at different epochs in the history of medicine. Hippocrates, Gulen, Sydenham and Smellie believed it was dead to suppression of the lachia. Later on the opinion became general throughout the world that it was in some way caused by milk metastasis; this in turn gave way to the localist's theory that it was metritis, peritonitis, phlebitis,

and was in some way the result of the puerperal state.

This was followed by the theory so ably defended even at the present day by For-
dyce Barker, namely, that it is a specific essential fever belonging to that class of zymotic diseases. During the past decade the view has gradually gained ground that it is blood poisoning, or septicæmia, due to causes acting mainly from without and associated directly or indirectly with micro-organisms. This is the accepted view of to-day, and it is interesting to note the circumstances that have led to the adoption of this doctrine.

In 1847 Sewelmeiss began teaching the modern view of the causation of child-bed fever and held that puerperal patients were chiefly attacked with puerperal fever when they had been examined by physicians fresh from contact with poisons engendered by cadaveric decay; that fever ensued in the practice of those who after post mortem examinations washed their hands in the usual manner, whereas but few, if any, cases occurred when the accoucher had washed his hands in a solution of chloride of lime.

Thus thirty years prior to Pasteur and Seiter, was antiseptic midwifery being practically carried out though in a crude way, not as application of a principle, but as the result of the close scrutiny of facts as seen by an acute observer. In 1850, Sir James Simpson, with extraordinary genius and foresight, wrote a paper on the Analogy between Puerperal and Surgical Fever, in which he compared the uterus, after delivery, to an amputated stump.

The opinion held by Barker and his followers held a foremost place for many years, and was chiefly cultivated by those endorsing that enunciation by Simpson.

The discoveries of Pasteur turned the balance largely in favor of the septicæmia view, and as above stated, is almost universally accepted to-day.

Another strong point in its favor was the

appeal to morbid appearances and the similarity of the lesions of surgical septicæmia and puerperal fever.

This position is further reinforced by the discovery of micro-organisms in the puerperal uterus identical with those in septicæmia. These organisms like those found in erysipelas, and in decomposing animal tissues, are antagonised by certain chemical agencies, and as a result of this knowledge of such an antagonism, the application of safe means for the destruction of them. The promise has been completely fulfilled in the brilliant results obtained in maternities by the routine use of antiseptics.

A study of the mortality tables before and after the introduction of the antiseptics furnishes convincing evidence of their value. There can be no other reason for this gratifying improvement as a rigid use of the antiseptic method is the only change made in the management of puerperal in these maternities.

I have not the time to devote to the investigation of these statistics, but it is incontestably demonstrated that this diminished death rate is due alone to this principle of antiseptics.

Prior to its introduction the mortality in five continental, and three English maternities was something over 4.2 per cent. for ten years including two or three epidemics in the Sywig-In-Volumeta in Munich. The same institutions now give the astounding record of only $\frac{1}{3}$ of one per cent.

The methods vary in the different maternities, and in the wards of different attendants in the same hospitals, yet all have in mind one grand principal, cleanliness first, that is a near approach as possible to an aseptic condition and this supplemented by antiseptics.

It is now admitted that normal labor is a traumatism. Every case furnishes an opportunity for the entrance of these micro-organisms into the blood current, and when once lodged there they cannot be expelled.

It is further admitted that this antagonism between these bacilli and their spores, and certain chemical agencies, places a weapon in our hands with which we may protect the avenues through which they enter.

The principle being so simple and its application still more so, the question now arises whether it is not our duty, with these facts before us, to bring it into requisition in our midwifery practice. Some will claim, that cleanliness, which they habitually enjoin and practice, is a sufficient protection. I will aver that it is not; and while it is absolutely necessary, it in no wise insures such protection as scrupulous cleanliness supplemented by a rigid adherence to antiseptic rules.

In no department of science is any principle more firmly established than this one. It is no fashion, but fixed principle, and though it may be greatly modified and, certainly, simplified in the range of its application. Medicine, surgery and midwifery will make its further progress directly in this line of reasoning.

From the results thus secured by the employment of antiseptic measures in the lying-in hospitals, we are assured of its value, and the question naturally arises how we are to apply them in domiciliary practice.

Setting aside the question of infection, we will inquire how it is that the poison that gives rise to the disease may be analyzed.

1st. It may arise through defective sanitary arrangements in the home where the confinement occurs.

2d. It may be conveyed by the nurse.

3d. Finally, the accoucher may be the means of carrying the disease.

Those of us engaged in village and country practice, have little concern about the dangers that beset puerperal woman in a crowded city. The poisonous emanations from sewer pipes and defective drains in the homes of the urban population have no counterpart in country practice. While the

general principles of ventilation and cleanliness are necessary factors in the accomplishment of thorough antiseptics, they are much easier under control.

The teaching of Playfair, as well as the practical experience of others, has made it evident that puerperal septicæmia is identical in its symptoms of course with that which arises from other causes.

If typhoid fever, diphtheria and certain forms of sore throat arise from foul air can we not argue that the poison of puerperal fever may spring from the same source. With the attention given to sexual cleanliness and the avoidance of contact with impurities there has been at the same time great consideration manifested for the sanitary surrounding of the puerpera. The improvement, then, is attributable to both causes.

The nurse who has an intelligent conception of what is the purpose of antiseptics and will carry its methods into practical operation, will add greatly to the success of the accouchers practice. It must not be routine merely, but in addition has some knowledge of principles upon which it is based. This extreme degree of cleanliness is a necessity.

We have now reached the point where the duties of the accoucher himself are to receive consideration. The experience in the maternity hospitals above referred to while not absolutely convincing to every one, should at least persuade all that a fair trial is asked for. An attempt to carry out antiseptic precautions, slovingly done, will cast discredit upon the method. Its rules are simple, and at first seem superfluous, but when once understood and employed become so easily a part of one's routine practice that they will be no longer regarded as great tasks, one falls easily into the habit.

It is a wise precaution to have the nurse to syringe out the vagina thoroughly with warm carbolized water during the first stage of labor. Unless there have been repeated

examinations by the attendant or nurse, or the labor has been unduly prolonged, there need be but one of these douches. Furthermore, every woman going into childbed should, as matter of course, decently and as a precautionary measure have the rectum thoroughly emptied by a large enema.

W. Wickel, whose success has been marvelous, directs that the vulva, nates, thighs and abdomen, be cautiously cleansed by a bi-chloride lotion immediately upon the beginning of labor. This can certainly do no harm, and does lessen the chances for poison entering the parturient canal. When we fully consider the value of a woman's life during the childbedding period, it devolves upon us to bring to our aid every measure that scientific research and common sense endorse. The results of these simple measures are before us and we cannot disregard their teachings.

The accoucher should, if possible, avoid contact with pus, erysipelas and all sources of contamination; and, just here, it will be well enough to say a word as to the advisability of attending cases after such exposure. Time does not destroy the vitality of all infecting material. A change of clothing, a warm bath, with free use of soap, and disinfection of the hands, will sufficiently purify the practitioner even though his exposure has been but a few hours before.

Catheters, forceps, cloths, in fact, all instruments necessary to the completion of the labor should be scrupulously cleansed preparatory to their use about the parturient canal.

It is a custom, almost universal, to place under the patient to catch the enematic fluid, blood and other discharges an old quilt that has seen years of service. It may have been used on the bed, covering patients having erysipelas, scarlatina, measles and fetid ulcers, and having been numberless times soiled by urinary and fecal discharges of the children in the nursery. If we are to have respect for the

prevailing views as to the origin of puerperal septicæmia, we must inaugurate a reform, and introduce some innovations into the lying-in chamber. This will be difficult to do, for in no department of our calling is custom so powerful as in that circle that presides over the functions where a being is to be ushered into this breathing world.

As a rule, it is not necessary to make a routine practice of washing out the vagina when the safeguards have been employed. This is seldom called for except when the labor has been tedious, or when there has been instrumental interference. If there is a fecal discharge, whether the temperature has risen above the normal or not, safety demands that the stream of a disinfectant solution be forced into the womb. There is some risk attending the use of the sublimate solution and it should only be used by the medical attendant, never by the nurse.

The above precautions are based upon the view that all cases of puerperal septicæmia are in their origin heterogenetic, but many hold that the fever may originate from within the patient's body, or be autogenetic. In cases supposed to be autogenetic, the woman is most frequently a multipara, the labor long and perhaps complicated, with a dead and putrid fœtus or with cancer, or there has been postpartum hemorrhage from a badly contracted uterus, followed by the formation of clots or retention of portions of the membranes or placenta. The uterus being badly contracted, air enters the vagina, and decomposition of contents is the result.

It is readily understood how infection can then be caused, and it is wisdom on the part of the attendant not to take risks, but wash out the uterus whenever a suspicious discharge appears. Do not wait for the chill and fever. It will then be too late. It will be argued that atmospheric air comes in contact with the discharge from every womb after delivery, and why are not all poisoned?

“The doctrine of autogenesis,” says Dr. Parvin, “is a confession of ignorance, the creed of fatalism, the cry of despair.

“It is more rational when we meet with cases of puerperal septicæmia whose origin we do not know, but which have the same history as others, the source of which we can trace to an external cause, and which have the same evolution and the same infecting power—to conclude that they too come from like sources though the connecting thread is so fine as to elude our vision than to erect an altar to the unknown god of autogenesis and imagine we have explained the mystery.

“Self-infection means that the house sets itself on fire, and that the powder magazine is exploded without any mischievous spark. What security can the practitioner have when the foe which brings swift death is created within her, and when she kills herself. This doctrine of the autogenesis of puerperal septicæmia is, to my mind, the very pessimism of obstetric medicine. Why should the city guard its gates when the enemy can already be in the citadel and begin the battle there?”

any, of those cases where I should judge that such a procedure, divulsion with the powerful instrument that we see here, is called for. What are they? They are most frequently cases in which we have cicatricial tissue, the result of inflammatory conditions. Frequently a very decided narrowing of the canal, sometimes so that it is open perhaps only to the finest surgical sound, where the entree of the instrument is difficult; where we have chronic conditions of the uterine tissue, where I believe we will proceed with more safety with other methods. Then we have narrowing of the canal, the direct result of injury; again acute inflammation of a localized portion; chronic metritis, due to a superabundance of tissue, where we should dilate the canal by natural means—by reduction of the inflammation. One instance he has mentioned, of the long conical cervix. I cannot say that I have seen this, where divulsion would lead to any special result, but in flexions, we certainly attain by enlarging the canal, free outflow of the fluid, consequently a more healthful condition, and it is in these conditions, flexions due to malnutrition at the point of flexion, or to inflammatory conditions, the thickening of tissue, result of congestion at that point, where the electricity, which the doctor seems to think little of, is our most rational and satisfactory method. We often find an indurated condition. The proper current applied there will not only widen the canal, but will produce absorption of that condition. Again, there are those conditions where there is narrowing due to injury, severe inflammation from the application of nitrate of silver, and there is cicatricial contraction of the tissues; in these conditions we will enlarge the canal, I believe, in the most rational manner by the galvanic current. In a case where the cervical canal was so narrow that a sewing needle was the only instrument that would penetrate, in ten minutes that canal was dilated with electricity so that a large uterine sound could pass freely, and the canal so remained. And a further advantage is

RAPID
DILATATION
OF THE
CERVIX
UTERI.

BY
YOUNG H. BOND,
M. D.

Continuation of the Dis-
cussion from January
PROGRESS.

DR. GEO. J. ENGEL-
MANN said: I was
anxious to hear of the
practice of those who
resort to those meth-
ods. I think you will
find that the subject is
one that has lost in-
terest of late, and I
think that with the ex-
ception of the few
who are resorting to

those methods, the instrument has been rather laid aside. And such a procedure as described by the doctor assumes the dignity of an operation, and I believe that the cases are comparatively few where it is called for. I see but very few, if

that the process of absorption is inaugurated. The result is one that we can rely upon. The tissue melts away before it. One sitting will suffice in the most aggravated case of narrowing to enable you to introduce the sound, and it will remain dilated. It is in the conical elongated cervixes, which the doctor has so well described, where this method is equal, at least, to any other, although I have given it up for many years.

Electricity in these cases must not be considered as it is in the treatment of rheumatism, etc.; it is absolute certainty. I trust that Dr. Bond will try it, because in cases in which we could not use the dilator, as in the case that only admitted the sewing needle, an instrument delicate enough to be forced through would have no strength. The instrument generally sold is not easily controlled, and we are too liable to have contraction following its use as with the knife. And I should not like to have this method resorted to freely on account of the danger. But we have better means, and it is uncalled for except in a certain class of cases.

Dr. E. H. Gregory.—It occurred to me to ask the question whether an internal os through which these instruments which we are passing around would pass, was not big enough; whether the natural os was ever that big? Dr. Engelmann remarks that the great object is to get rid of the neoplasm. It is not always the case that the cervix is too narrow; it is surrounded by cicatricial tissue, and the treatment should be directed against this tissue. Dr. Engelmann's remarks were very suggestive; we ought by some subtle agency to dispose of this tissue, and electricity has an influence in that direction—it destroys the tissue. We can gauge its influence so that it will destroy only those tissues which have the minimum resistance, and scar tissue illustrates this kind of resistance. If electricity does what is claimed for it by its advocates, it is an interstitial stimulant, working in the very elements of this scar structure and destroying the neo-

plastic material for several lines in thickness.

Dr. H. H. Mudd.—It seems to me that all of the methods that have been referred to have some virtues, all aiming at the same purpose. That there is a condition of inflammation attending these conditions, will generally be assented. How can we get rid of this inflammatory material? Emmet would say, hot water; another, by incision, a third, by divulsion, others, electricity, pregnancy. When I take a stricture of the rectum, the hard material that encroaches so as to obstruct two-thirds of the caliber of the gut, and put my knife through the stricture, I expect to see the indurated material disappear very quickly. The impaired condition of a cicatrix is still left, necessitating a reapplication of the treatment, whether electricity or dilatation. The cutting operation is not reapplied, because its work is done. The purpose is to determine a change in the condition of the parts, and that is determined by any one of those treatments. I am not sufficiently conversant to say positively, but I have not seen electricity so universally applicable as I have heard it claimed. The cutting operation on the cervix is, I think, justly condemned.

Dr. Geo. F. Hulbert.—I am sorry to see Dr. Bond hold the position he does in regard to this operation. I don't think that the operation of divulsion is either rational, correct or justifiable. As far as simple dilatation is concerned, it results in nothing more than physiological exercise of the muscle. If there is anything accomplished, it is temporary. I will present a paper next Saturday night on "Conservative Gynecology—Is Divulsion of the Cervix Uteri Rational, Correct or Justifiable?"

Dr. F. R. Fry.—I have had a slight experience in the use of electricity in treating the cervix; especially several cases of what might be termed resilient stenosis or contracting of the cervix, and especially at the internal os. I judge many cases to be of that character, and within a week or ten days

after dilating we find that the calibre is about the same as before. I don't find that a current of electricity of considerable strength, will overcome that condition, either in the canal of the womb or the urethra. I have used a current of fifty milliamperes and more for this purpose. I have seen a few instances of the kind where there seemed to be an effect that was possibly more lasting than can be accomplished by graded sounds. But I believe that in cases of resilient strictures, the electricity will not accomplish much—at any rate, with the negative pole, from which we expect to get the electrolytic action. I have tried two such cases with the positive pole and I got a greater amount of inflammation than I would have gotten from the negative pole, and I attributed my results to the inflammatory influence of the positive pole rather than to the electrolytic action.

Dr. Engelmann.—I don't know whether I expressed myself with sufficient clearness. It is not a possible fact; it is as certain as cutting with the knife. If you will take the hard cicatricial tissue and the metallic pole with 100 milliamperes, you will destroy it, it will melt away before it. That is one fact; the second is its absorptive power, depending on the current passing very deep. This is more problematical, sometimes present, sometimes absent. But the other is certain and its result will remain, but it needs a certain strength to the current. In the urethra there is a general narrowing of a more healthy tissue, which you could not destroy, and you could only use the mild current. The electricity acts something like an escharotic, and yet you could not say it was an escharotic; the latter would be liable to contract; there is no contraction here; if anything it gets wider afterwards.

Dr. Bond.—Suppose for the sake of argument that electricity accomplished the result claimed for it, I don't believe it will accomplish the absolute rightening of flexions or remedy elongated cervixes. I do not know that divulsion will positively relieve them;

you lessen the longitudinal diameter and increase the transverse diameter and permanently relieve it. If you only increase the transverse diameter, it still leaves the conical cervix. But suppose it possesses the power of resolving the inflammatory products about the flexions, if by that means you could relieve the mechanical obstacle, you will relieve dysmenorrhea, but you would not relieve the result of the flexion; you would accomplish some relief; but suppose the flexion has occasioned hyperemia of the uterine walls, does making the canal pervious relieve it? Suppose it interferes with the uterine plexus of veins or arteries that are derived from the ovarian and uterine vessels—and as evidence of that fact, how frequently do we have the anterior lip hypertrophied! It is because the circulation is interfered with. Inflammatory action does not take place; if it did, we would have the results of inflammation. It is on account of the interference with the venous or arterial circulation. I don't believe we can expect any permanency of result as a consequence of treatment in flexions.

As to the remarks of Dr. Gregory, he does not know the necessity for the use of the instrument. Take, for instance, a flexion, represented by a piece of hose, bend it and the canal is interfered with; if I hook on a tenaculum and draw it down, I straighten it out sufficiently to introduce all these instruments, and then dilate it sufficiently to establish circulation and maintain it so until physiological return of the circulation is established, and then relieve the case. There are cases in which the cervical canal is so small that it is utterly impossible to introduce these instruments; then I use tents or bougies, and as soon as it is possible to introduce the instruments they will accomplish the results I claim. In the ordinary office use of the instrument, I am in the habit of using it once or twice a week. I have a case now of a lady who suffered intensely every month in consequence of her menstruation. During the last two periods she has been almost en-

tirely free from pain. I usually dilate about five or six days after menstruation. Dr. Engelmann said that this method is not much practiced now. If you will permit me I will read a little passage from Goodell in his last edition in that connection:

"Including all the cases of dilatation performed under ether, I must have had nigh four hundred cases. I have limited myself to these cases, because the use of an anesthetic implies full dilatation—one in which serious injury, if ever, would most likely be sustained. Yet there has not been a death, or a case even of serious inflammation, in my practice, and the results have been most satisfactory—far more so than when the cutting operation was performed by me."

Let me read to you a brief extract of the statistics of his cases of dysmenorrhea: "Of single women there were one hundred and twenty-two cases; of married, one hundred and forty-eight, making in all two hundred and seventy. Of the unmarried, thirty-four were unheard from after the operation, leaving eighty-eight from which any data could be obtained. Of these, fifty-five cases were virtually cured, twenty-five more or less improved, and eight were not at all improved. Of these eight that were not at all benefited by the operation five subsequently had their ovaries removed, one of them by another physician, and four by myself; of the latter, one died. In each case one of the ovaries had become so changed by cystic or by interstitial degeneration, as to make the dysmenorrhea otherwise incurable.

Out of the twenty five improved, there was one on whom oophorectomy was also performed, for although the dysmenorrhea was partly relieved by dilatation, ovarian insanity and menorrhagia was not. The operation was a successful one, and my patient was not only cured of her hemorrhages, but she regained her reason. Out of these cases, the majority, although not wholly cured, were greatly improved. * * *

Of the married, eighty-five were heard from. Of these fifty-nine were virtually

cured, twenty-one improved, and five unimproved. Out of these eighty-five cases, thirteen were not in a condition to conceive, seven of them from fibroid tumor of the womb, two from destructive applications of silver nitrate to a torn cervix, three from being over forty-one years of age, and one from being a widow. This leaves but seventy-two capable of conception, and of these fourteen, or about 20 per cent., became pregnant. But the ratio is, in fact, larger, for I know that several of my patients, fearing pregnancy, employed preventive measures after the operation, and I suspected several others of doing the same thing. Then, again, I believe that yet others, who consulted me merely for painful menstruation, have not reported their subsequent pregnancies. For instance, of the fourteen cases of pregnancies, five came to my knowledge incidentally, and not directly from the ladies themselves. It is not much more than two years ago that I learned, by the merest accident, the subsequent history of a clergyman's wife, whose cervical canal I had dilated eight years ago. She had been making up for lost time by giving birth to twins within a year after the operation, and later to several other children. She had been married eight years before she came to me, and had had her cervical canal dilated by tents and slit up with Peaslee's metrotome by a skilful surgeon.

But while you can expect much from this operation when it is performed for dysmenorrhea caused by flexion or by stenosis, you cannot be so sanguine with regard to its results in sterility. The reason of this is, that sterility, associated with dysmenorrhea, often leads to such tissue changes in the womb as in time to make it incapable of forming a nest for the ovum, which, therefore, either escapes or perishes."

As to the safety of the operation, Crobeck, before the introduction of antisepticism, operated on thirty-five cases with only one unpleasant result. Winckel operated on fifty cases without a single bad result. In these cases he reports twenty-five cases, in five of which pregnancy had occurred at the time he was reporting the cases.

PATHOLOGY AND HYGIENE.

DYSENTERY.

MR. CONLY NORMAN

has made a communication as to the cause of the outbreak of dysentery with which he had to deal in the Richmond Lunatic Asylum, Dublin. Mr. Norman stated his belief that the outbreak was due to defective drainage, and laid down the following as probable general laws that regulate the appearance of dysentery: 1. Dysentery is communicated through exhalations from a soil saturated with the products of organic decomposition. 2. The incidence of dysentery at particular times and seasons is due to the increased moisture of the soil at such times. 3. When dysentery breaks out there is commonly a concurrent outbreak of severe diarrhoea. 4. Dysentery appears where dysentery has been before. 5. When dysentery appears over a large area, including its own haunt, it appears in the latter situation in its worst form and to the greatest extent. 6. Like other malarial affections, dysentery attacks by preference those who are not acclimated to the conditions that have produced it—Mr. Frazer believed that dysentery was and could be contagious, for he remembered making a *post-mortem* examination in the Richmond Hospital from which he got a most severe attack of dysentery, and which he believed to have been produced by contagion. He was not satisfied with Mr. Conly Norman's observations upon malaria. From the most remote times dysentery had been epidemic in Ireland. In the battles during the reign of Elizabeth the soldiers were decimated by it; the same thing occurred during the wars of Cromwell and William III; and yet Ireland had always been remarkably free from malaria. But that dysentery might be associated with malaria, on the other hand, was possible. Malaria, as such, was confined to very limited districts in Ireland. He knew that it existed along the Dublin river; but there had been no co-existence of dysentery in

those spots. Another remarkable fact was that it occurred at certain seasons of the year. It was well known to break out in autumn, especially after the first frosts, which was accounted for in former times by persons drinking water containing animal and vegetable material in a state of decay. As for its morality, he was resident in the hospital during the years 1847, 1848, and 1849, and to attend specially upon fever and dysentery; and the morality in cases of dysentery—of which only the very bad were admitted—was three times as great as in the worst fever cases; it amounted at one period to one out of every four cases. Dr. Cheyne used the remarkable expression that dysentery was “fever turned in on the bowels.” His preparations illustrative of the disease were in the Richmond Hospital, and were described in the series of the Dublin hospital reports.

SUICIDAL
WOUND
OF THE
HEART
WITH A
PIN.

MR. WILLIAM THOMPSON reported to the Irish Academy a case of suicidal wound of the heart with a pin. The head

of a pin was discovered in the fifth intercostal space, two inches and a half from the nipple—downwards and inwards. The pin had traversed the pericardium, and wounded the anterior wall of the left ventricle. The pericardium contained seventeen ounces and a half of bloody fluid, and there was a small rent in the wall a quarter of an inch in diameter, which was filled by blood-clot. The surface of the ventricle in contact with the pin was torn to the extent of nearly an inch; a small vein was also wounded.—Dr. Foot referred to the case of Admiral Villeneuve, who commanded the French fleet at Trafalgar, and who some time afterwards pierced his heart with a long needle. A case came under his (Dr. Foot's) notice of a child into whose heart a needle went from its mother's dress as she was clasping it to

her breast. She immediately ran with the child to the Meath Hospital. He distinctly saw the oscillations of the needle caused by the action of the heart, and drew it out with a rotatory motion, in order to lessen the chance of hæmorrhage. The woman brought the child to him next day, nothing further happened. In Warsaw the latest the latest treatment for cholera was puncturing the heart with a needle to stir up vitality.—Mr. Foy mentioned a case of a nobleman of Turin—a courtier of King Amadeo—who was killed by his wife, who drove a golden needle into his chest at a spot ascertained from anatomical plates to be over the heart. Fischer collected 453 cases of wounds of this sort, in the majority of which death resulted from the pericardium becoming filled with blood. In a case by Dr. Moxon, exhibited before the Clinical Society of London, a large pin was seen sticking in the chest of the patient, and moving with each motion of the heart, but apparently causing no trouble whatever to the patient. In another case a knitting-needle, shot from a toy pistol, perforated the right ventricle of a boy's heart, went into auricle, and transfixed the valves, and yet the boy lived a considerable time. In another case a boy lived for five weeks after his heart had been pierced by a wooden peg three inches long. In the case of the woman who drove the thirty needles into herself, death resulted from a wound inflicted by only one of them upon the superior vena cava. In another case a pin found its way into the thoracic duct, and the patient bled to death. A most remarkable case was that of a medical student, who, while on a "spree," passed some pins into his heart. His pericardium was opened and the head of a pin was found outside the wall of the right ventricle. It was grasped, and a slight incision was made in the ventricle to facilitate its removal: but the systolic action of the heart carried it in, and the pin was still in the young man's ventricle, and occasioned him no trouble.

Professor Christison recorded a case of a man wounded by a bullet, which found its way into the right ventricle of his heart, and it remained there for two years, occasioning him no trouble, and he eventually died of pleurisy.—Dr. Finny said these cases showed how tolerant the heart was of injury, providing certain portions of it were not injured. The walls of the heart were tolerant of injury so long as there was no hæmorrhage to stifle the heart's action. But there were cases of death immediately occurring from very small injuries to the nervous ganglia.—Mr. Frazer said that amongst the Japanese puncturing of the heart was a primitive mode of treatment for the cure of certain affections. He had a note of a *post-mortem* examination made while he was a student, in which he found a needle an inch and a half long in the surface of the heart, inside the pericardium, the surface of it being covered with old lymph.—Dr. Walter Smith mentioned a case of suicide which came within his knowledge. It was a young lady who became insane. One day, while two nurses were in the room with her, she drove a hair-pin, which she had secreted, into her abdomen through the umbilicus, uttering no sound whatever or expression of pain. She told the superintendent next day that "she had done it." He looked at her abdomen, saw no mark, and disbelieved her; but symptoms of peritonitis soon appeared, and she died, and on a *post-mortem* examination the hair-pin was found amongst the coils of the intestine.—Mr. Molony mentioned a case of a person who attempted suicide by working a hole in the abdominal wall, about an inch on the left side of the umbilicus, with the end of a lucifer match. Mr. Cox gave a case of a man who, while suffering from delirium tremens in an asylum, wounded himself over the heart and in the arm with the sharpened end of a spoon.

BORATE of sodium in solution, ten grains to the ounce of water, is a soothing local antiseptic.

BOOKS AND PERIODICALS.

FUNCTIONAL
NERVOUS
DISEASES.*Their Causes and their Treatment.*Memoir for the Concourse
of 1881-1883. Academie
Royale de Medecine de Belgique.With a Supplement on the
Anomalies of Refraction
and accommodation of the eye
and of the ocular muscles.

BY

GEO. T. STEVENS,

M.D., PH.D.

New York: D. Appleton
and Company, 1887. Cloth.
517 pages. Price \$250.

In his preface Dr. Stevens says the major part of this work is an unrevised form of his memoir, which, in December, 1883, was accorded the first honor by the Royal Academy of Medicine of Belgium. To have revised it, the author thinks, would have been consistent with his purpose to present an English version of that which had won for him so much distinction in a foreign

country. A few slight changes, however, have been made. Preserving all the methods without modification, histories of cases, illustrated with photographs in the original memoir, are added in this edition. For the general practitioner, a supplement, devoted to a brief consideration of the anomalies of refraction and accommodation, along with muscular anomalies and their treatment, has been added. While the work was in progress of preparation, all the negatives from which the photograveurs were to have been made were, unfortunately, destroyed by fire, which made it necessary to rely upon somewhat indifferent prints and descriptive illustrations.

Dr. Stevens writes in a plain, straightforward manner, setting forth the facts from the standpoint of clinical observation. He points out the necessity of perfect muscular harmony both in the direction of the visual axes of the two eyes in the exercise of the accommodative function. Now, as the accommodative apparatus is imperfectly understood, physical defects are not easily traced from functional disturbance. The case, however, is altogether different with

the motility of the eyeball, where there are but few muscles concerned, and these of so gross a character as to be easily demonstrated. If, therefore, any want of harmony exist between the muscular movement and focusing power, it leads to irritation of the ciliary nerves, which, it is known, take an active part in the function of accommodation. In this way, indistinct visual impressions may give rise to such disturbances of equilibrium as to bring on vertigo. Prolonged attempts at focusing the eye may even lead to a sense of fullness in the occiput, associated with melancholia; and, finally, to some form of mania. On the other hand, where the refracting power is insufficient, attempts to make up this insufficiency, where the object is held nearer than fourteen inches from the face, may lead to such irritation of the internal-recti muscles as to develop temporary squint, which, when the person attempts to look at some distant objects, causes double images; and, this in turn, may so disturb the nervous system as to cause a variety of reflexes, more or less serious in their nature.

Hence, it may easily be seen Dr. Stevens has performed a great work in placing before the profession the results of his clinical observations in the treatment of those neuroses due to disturbances of the ocular muscles, and to anomalies of accommodation and refraction. In one hundred cases of persistent headache, correction of anomalous states of the eyes, permanently relieved 83.6 per cent., 12.4 were improved, while 4 were not relieved. Considering the difficulty in many neurotic persons of establishing permanent changes of long continued abnormal states, four per cent. of failures constitutes an exceedingly favorable showing.

The abundant clinical illustrations give to Dr. Stevens' opinions the character of legitimate conclusions from experimental observation. Facing page 124 is a plate of two figures so life-like in appearance that, they tell a story which no language could

portray. These figures illustrate a type of neuropathy, which, by the incidental occurrence of certain ocular conditions, so altered the physiognomy as to greatly intensify an inherited weakness, the eyes constituting the inciting cause of insanity in a person having a neuropathic inheritance.

The supplement, which embraces sixty-nine pages of the work, is devoted to a popular outline consideration of the principal points involved in the exercise of the eyes under normal and abnormal conditions. The anomalous states of refraction are treated in a very brief, but practical, manner.

The relations of anomalies of refraction and accommodation, and muscular function are clearly set forth according to the principles laid down by Donders and Landolt. It is to be hoped these observations may serve to deter physicians in general practice from permitting their patients to fall into the hands of peripatetic oculists, or, what is sometimes as bad, to use the spectacles supplied by pedlers and jewelers. It has come to be the fashion for every dealer in watches and clocks, to say nothing of those who deal in plated ware, to advertise themselves as OPTICIANS. In fact, the general public are ready to believe anybody is an optician who has spectacles for sale. Many of the conditions described by Dr. Stevens have been known to arise from the use of imperfectly adjusted or imperfectly constructed spectacle lenses. The Royal Medical Society of Belgium honored itself in honoring Dr. Stevens for his authorship of this memoir.

THE THREE

ETHICAL CODES.

THE ILLUSTRATED MEDICAL JOURNAL CO.,

Publishers, Detroit, Mich.

Cloth, 55 pages, post-paid, 50 cents.

In this little book is re-printed the Code of Ethics, of the American Medical Association, with its Constitution, By-Law and Ordinances, brought down to 1888; The Code of Ethics of the American Institute of Homœopathy and the Code of Ethics, of the National Eclectic Medical Society.

CORRESPONDENCE AND SOCIETIES.

A CONGRESS FOR THE STUDY OF HUMAN AND ANIMAL TU- BERCULOSIS.

Translated from *L' Union Medical*

BY

SALLIE E. MORRIS,
of Covington, Ky.

A Congress of physicians and veterinaries for the purpose of the scientific study of tuberculosis in man and in animals will be held in Paris from the 25th to the 31st of July, 1888 under the local management of the Faculty of Medicine.

This Congress is organized by a committee composed of the following: Prof. Chauveau, member of the Institute, president; Prof. Villemin, member of the Academy of Medicine, vice-president; M. Butel, a veterinarian of Maux, vice-president of the Society of Veterinary Practice of Medicine; M. Le Blanc, of the Academy of Medicine; M. Nocart, of Alfort, director of the Veterinary School at Alfort; M. Rossignol, a veterinarian at Melun, secretary-general of the Society of the Practice of Veterinary Medicine; M. Cornil, M. Grancher, M. Lannelongue, and M. Verneuil, of Paris, and M. L. H. Petit, assistant librarian of the Faculty, secretary-General.

The questions to be discussed will be of two orders,—some proposed in advance by the Committee of organization and others chosen at large but equally devoted to the consideration of tuberculosis. One day will be reserved for anatomical demonstrations in M. Cornil's laboratory, he being the professor of pathological anatomy of the Faculty. Another day will be devoted to examinations and autopsies of tuberculous animals after the School of Alfort. All physicians and veterinaries, French and foreign, will be able, by subscribing early and by paying an assessment of ten francs to become members of the Congress and to take part in its proceedings. The assessment entitles the member to a volume of

the “published transactions” of the Congress.

The sessions of the Congress will be public. All the communications and discussions will be in French.

The following questions are proposed by the Committee of organization :

- 1. On the dangers incident to the use of the meat and milk of tuberculous animals and the means of preventing them ; on the human races, species of animals, and organic media in relation to their susceptibility to tuberculosis.
- 2. The avenues of introduction and propagation of the tuberculous virus in the economy. Prophylactic measures (3.) on the early diagnosis of tuberculosis in man and in animals.

Although the members of the Congress will be allowed to chose a certain number of questions outside of the preceding which will be accorded priorily in the orders of the day, the committee of organization desire to call attention more particularly to the following.

The heredity of tuberculosis in man and in various species of animals, its contagiousness from man to man, between animals and *vice versa* ; the various forms of evolution of experimental tuberculosis, according to the quality and quantity of the virus inoculated. The differences of tubercular affections in various species of animals ; the means of distinguishing the lesions caused by the bacillus of Koch from the granulations and inflammations due to various microbes (Zooglance, the bacteria of the contagious reumonia of the hog, aspergilli, etc.) and to animal parasites or foreign bodies on tubercular lesions complicated with other microbial lesions. The mode of formation of giant cells and tubercular islets ; the evolution of local tuberculosis on agents destructive to the bacillus of Koch. Local and general means cabable of correcting the spread of experimental tuberculosis ; the value of surgical treatment in tuberculose affections.

Membership fees should be addressed to M. M. G. Masson, treasurer, 120 Boulevard Saint Germain, and all other communications relative to the Congress to M. C. D. Petit, secretary-general, 11 Rue Monge.

A NEW
BACILLUS
TYPHOIDEUS.

A recent writer says: “Hydrant water was mixed with the purest gelatine,

and slightly heated. As soon as the gelatine liquified, a slight quantity of hydrant water was added and well mixed with the other fluid. It was then poured out on a porcelain slab to cool. As soon as it solidified, it was covered with a large beaker glass, the inside of which had been painted with a solution of arsenite of soda. The



gelatine with which the water had been mixed, began to purify in twelve hours ; at the same time the gelatine partly began to liquidify, said liquid being fill-

ed with bacillus rubra and bacillus violaceous.” Speaking of the bacillus typhoideus, which he cultivated by transferring some of the gray spots formed in his gelatine mixture to the surface of a boiled potato, or to an infusion of althea root, the gentleman says: “It should be examined in a hanging drop of distilled water, which will be found to contain a multitude of small, but very active, living typhoid bacillus.” Here is the cut he employs to illustrate his typhoid bacillus.

To cultivate the disease-producing fungi requires something more than gelatin and water mixed and poured out upon a piece of plate glass, with a breaker inverted over it, yet Dr. Rademaker, of this city, announces this novel method of demonstrating the bacillus typhoideus in the hydrant water. Shadows of Koch, protect him !

PROGRESS

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ANNOUNCEMENT.

The business management of PROGRESS so well conducted by Mr. D. W. Raymond, has, on account of his retirement, passed to other hands. Mr. Raymond has made many friends in the medical profession, and he retires in obedience to the inexorable demands of his extensive business engagements only.

Fortunately, however, for PROGRESS, Professor W. C. Dugan has consented to an arrangement by which he is to become the business editor, to whom all matters relating to the advertising or subscription should be addressed.

The editor in chief is to be further assisted in his work by Dr. Thomas C. Evans.

MEDICINE AND PHARMACY.

The present generation experiences a great change in the relations of the professions of medicine and pharmacy.

A quarter of a century ago, the almost universally adopted text-book on Materia Medica in the medical colleges was that of the late Prof. George B. Wood of Philadelphia, entitled "Therapeutics and Pharmacology, or Materia Medica." Prof. Wood had been a private teacher of Materia Medica,

and a lecturer in the Philadelphia College of Pharmacy prior to his promotion to a Professorship in the University of Pennsylvania. He was one of the authors—in fact, the originator of the United States Dispensatory, fourteen editions of which he lived to see adopted, alike by colleges of pharmacy and medical schools. Time has wrought a great change, and no man will again be able to master these two professions so as to be able to present a common text-book for both. There are so many independent lines of inquiry prosecuted, and the fields of experimental knowledge are so numerous that pharmacy is no longer taught in any form in the medical colleges. The number of schools adapted to the purposes of teaching pharmacy, as a separate and distinct profession, have multiplied, until we now have a new and separate profession of pharmacy in contra distinction to the doctors of medicine. The manufacturing pharmacists have come into existence in practically a new role. Chemistry and Pharmacy are so intimately allied, that the manufacturing pharmacist must needs be an analytical chemist; and the dispensing pharmacist is required to be familiar—theoretically, at least—with the therapeutical and physiological action of the drugs he compounds and dispenses. In the medical colleges, Materia Medica is taught, and Pharmacy, as far as it is taught in the United States Dispensatory, likewise. The latter, theoretically, however, and not practically. It is, therefore, very plain that doctors of medicine are not better qualified for the practice of pharmacy, than the doctors of pharmacy are for the practice of medicine. Now, if as all will agree, the dispensing pharmacist is neither qualified, nor in any way authorized to prescribe for the sick, or to practice physic in the general understanding of that term, doctors of medicine are, likewise, not qualified to practice pharmacy; and, whilst it may be true the doctor of medicine is able to dispense the prepared medicine to his patients, he could not honorably undertake to compound prescriptions

of other practioners. It would not be safe for him to attempt to dispense the large percentage of prescriptions he would get from others, in which new compounds are ordered, which require both pharmaceutical education and skill to mix. It is, therefore, reasonable and just that some legislative enactment should restrain pharmacists from the practice of medicine upon the bare theoretical instruction they have had concerning the action of medicines; and the physician, likewise, from practicing pharmacy upon the bare theoretical knowledge he has of pharmaceutical processes and manipulations. In all enlightened communities these distinctions are well established, and are generally observed. Yet it too often happens the young graduate from the medical college goes off into a small country place and there sets himself up in the dual capacity of medical practitioner and dispensing pharmacist. It likewise occurs that graduates in pharmacy are led into the temptation of prescribing for the sick. It is painfully true that examples of both of these classes are all too numerous in Kentucky, and a majority of the others States. Our Legislature is now in session, and it is earnestly hoped that some law may be enacted for the protection of the people against impositions of this kind; and, the protection of the two professions of medicine and pharmacy from dishonor brought upon them by unscrupulous and avaricious men. Strict justice, in the technical sense of the term, can never be secured by legislative enactment, nor, in fact, in any way whatsoever. Dangerous abuses of power and of popular confidence, may, however, be sometimes restrained. Let us, therefore, be content to exercise the restraining power in this instance. Let the Kentucky State Medical Society, which represents all the respectable element of the medical profession in the State, nominate, and let the Governor appoint from this list of names, a board of experts to determine by examination of applicants their fitness to practice medicine. Let every member of

the profession be licensed. Let the license state whether it is granted upon some exemption, or, after due examination by the lawfully constituted board. Let the same rule be applied to the other professions, giving the State Pharmaceutical Association the power of authority to nominate, and let the Governor appoint from that list a suitable board of experts to determine the qualifications of applicants to practice pharmacy in the State. If it should turn out that a doctor of medicine is able to pass the required examination before the pharmaceutical board, then, and not otherwise, let him have a license to dispense medicines other than by his own prescription; and, per contra, if it should turn out that some graduate of a college of pharmacy is able to stand the examination before a board of experts to determine his qualifications to practice physic, let him have a license to do so, but not otherwise. Such a law as this exists already in many of the States, and it has been found of great service to the public.

DR. JAMES

E. REEVES.

Dr. James E. Reeves, so long a conspicuous figure in experimental pathology and sanitary work at Weeling, W. Va., has gone to live permanently at Chattanooga, Tenn. Climatic considerations induced this change of residence. The profession of West Virginia loses one of its brightest ornaments; Chattanooga has a corresponding acquisition. It is the intention of Dr. Reeves to engage rather in a consultation business, devoting especial attention to renal affections, and to those disorders a correct diagnosis, of which depends largely upon the revelations of the microscope. It is our desire that he shall prosper well in his new home. Meantime, it may interest some of our readers to know that Dr. Reeves is prepared to supply cabinets of the micro-organisms, now recognized as the materies morbi, of many of our common infectious diseases. He also prepares cabinets of different kinds of morbid tissue, including malignant growths.

AMERICAN
MEDICAL
ASSOCIATION.

The Thirty-ninth Annual Session will be held in Cincinnati, Ohio, on Tuesday, Wednesday, Thursday and Friday, May 8, 9, 10 and 11, commencing on Tuesday at 11 A. M.

"The delegates shall receive their appointment from permanently organized State Medical Societies, and such County and District Medical Societies *as are recognized by representation in their respective State Societies*, and from the Medical Department of the Army and Navy, and the Marine Hospital Service of the United States.

"Each State, County, and District Medical Society *entitled* to representation shall have the privilege of sending to the Association one delegate for every ten of its regular resident members, and one for every additional fraction of more than half that number: *Provided*, however, that the number of delegates for any particular State, territory, county, city or town shall not exceed the ratio of one in ten of the resident physicians who may have signed the Code of Ethics of the Association."

Secretaries of Medical Societies, as above designated, are earnestly requested to forward *at once*, lists of their delegates.

Also, that the Permanent Secretary may be enabled to erase from the roll the names of those who have forfeited their membership, the Secretaries *are by special resolution*, requested to send to him, annually, a corrected list of the membership of their respective Societies.

Sections.—"The Chairman of each Section shall prepare an address on the recent advancements in the branches belonging to his Section, including such suggestions in regard to improvements in methods of work, and present, on the first day of its annual meeting, the same to the Section over which he presides. The reading of such address not to occupy more than forty minutes. . . ."—*By-Laws*.

Practicé of Medicine, *Materia Medica* and Physiology: Dr. ¹—, Chairman; Dr. N. S. Davis, Jr., 65 Randolph St., Chicago, Ill., Secretary.

Obstetrics and Diseases of Women and Children: Dr. Eli Van De Warker, 45 Montgomery St., Syracuse, N. Y., Chairman; Dr. E. W. Cushing, 1 Hotel Pelham, Boston, Mass., Secretary.

Surgery and Anatomy: Dr. Donald McLean, 72 Lafayette Avenue, Detroit, Mich., Chairman; Dr. B. A. Watson, 124 York St., Jersey City, N. J., Secretary.

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Medical Jurisprudence: Dr. E. M. Reid, 243 N. Fremont St., Baltimore, Md., Chairman; Dr. C. B. Bell, Suffolk, Mass., Secretary.

Dermatology and Syphilography: Dr. L. Bulkley, 4 E. Thirty-seventh St., New York, Chairman; Dr. S. F. Dunlap, Danville, Ky., Secretary.

A member desiring to read a paper before a Section should forward the paper, or its *title* and *length* (not to exceed twenty minutes in reading), to the Chairman of the Committee of Arrangements at least one month before the meeting.—*By-Laws*.

Committee of Arrangements.—W. W. Dawson, Cincinnati, Ohio, Chairman.

Official announcement by

WM. B. ATKINSON, M. D.,
Permanent Secretary.

PHILADELPHIA, 1400 Pine St.

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W. C. DUGAN, M. D., Business Editor.
ROGERS-TULEY COMPANY, Publishers.

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No house will, therefore, be able to purchase space in this department.

THE BUSINESS
EDITOR SA-
LUTES YOU.

In undertaking the responsibilities of the general management of all the business af-

fairs of PROGRESS the business Editor realizes the importance of securing the friendly aid of both the Medical and the Pharmaceutical profession. Upon the former we depend for contributions to the literary department, and subscriptions in support of the business; upon the latter we depend for our medical supplies and for information as to where all the new and useful articles in the Physicians' and Pharmacists' armamentaria may be had. We, therefore, feel the importance of the mutually dependent relations, and most earnestly crave the support and patronage of the professions and the related trades.

W. C. D., M. D.

THE PUBLISHER
SALUTES YOU.

Having purchased the interest of Mr. D. W. Raymond, the

Publisher of PROGRESS, most respectfully announces a new business management which it is confidently believed will meet the requirements of both the subscribers and advertisers.

Professor Dugan is a teacher and writer, well known to the medical profession and business men, who, having successfully conducted his own affairs, it is to be presumed will prove fully able to conduct the affairs of PROGRESS. He is in every sense a responsible man, and his contracts will be

scrupulously executed. Advertisers will find him a powerful ally in the successful presentation of their goods to a choice and large circle of buyers.

ROGERS TULEY COMPANY.

ROBINSON'S PHOSPHORIC ELIXIR. — The attention of Practitioners is invited to the following article which appeared in *The Medical Age*, Detroit, Michigan, October 25, 1887: R. A. Robinson & Co., Manufacturing Pharmacists, Louisville, Ky. On the Exhibition of the Phosphates. By Willard H. Morse, M. D., Westfield, N. J.

"It is generally, therapeutically, agreed that the preferable method of exhibiting phosphorus is by the use of the phosphates. There are not wanting the most radical objections against the oleum phosphatum and the two tinctures; and there is reasonable question as to the phosphorus pill or the pill of the phosphide being unvarying availability. The phosphates merit the distinction, and magnify it. But while we admit the therapeutic superiority of the phosphates, and find in them the preferable method of exhibition, there arises the question as to the *best way* of exhibiting them. It is not by any means a new or a unique therapeutical problem. It has vexed the fathers in the time past, and to them it became as vexatious as it is to our own generation.

If we make the answer read thus, "By the combination of an acid," we have need to be self-accusative of being paradoxical, inasmuch as the leading phosphates are distinctively alkaline. Yet the fact remains that the free monohydrated phosphoric acid is the exponent thought. There is a French chemical proverb which has it, that "the phosphate of water reconciles the quarrels of its eight sisters." We gain an understanding of this saying, and at the same time minister to the congruity of the paradox, by remembering two facts, namely the synonym for the reconciling phosphate and the chemical nominations of the phosphates. The phosphate of water is but another name for

monohydrated phosphoric acid, and is one of the nine recognized phosphates. The remaining eight are the salts of ammonium, quinia, manganese, zinc, iron, potassium, sodium, and calcium. The ammonium salt need not concern the matter in a general sense, and the salts of magnese, quinia and zinc are not officinal or relevant to the issue. We find concern solely with the three-alkaline and the ferric phosphates, and each because of the common and specified base.

The phosphate of potassium is a white, deliquescent, amorphous or crystalline salt. The phosphate of soda is in large, colorless crystals, at first transparent, but becoming opaque and efflorescing on exposure to the air. The phosphate of iron is a bright slate-colored powder, insoluble in water. The phosphate of lime is a white salt, tasteless, and insoluble in water.

The free monohydrated phosphoric acid is a white, transparent fusible solid, sour, inodorous, deliquescent, and soluble in water and alcohol. Its formula is HO, PO_5 , or H, PO_3 .

The potassium salt has an alterative action; the sodium salt a hepatic and cathartic action; the ferric salt has all of the virtues of the ferruginous preparations in general; and the calcic salt is notably the representative of calcic preparation.

The phosphates of potassium, sodium, and calcium are severally synergistic, assisting each other's action, and promoting destructive metamorphosis. Given into an empty stomach, it is patent that they observe the distinctive characteristics of the alkalies, except that by the chemical position of the phosphorus their physiological action is amendably controlled. Phosphorus,—and as well, iron, and the monohydrated phosphoric acid—are chemically antagonistic to the alkaline group, promoting constructive metamorphosis in the same ratio that the alkalies perform the opposite degree of action. If we administer the alkaline phosphates, we expect of them obedience to the chemical law, which prescribes a promotion

of the relative acidity of the gastric juice.

This is accomplished by favoring the osmosis of those blood-constituents from which the acid of the stomach is elaborated. If with the three alkaline salts we combine the ferric salt, we procure theoretically a change of action definable as tonic. In point of reality the metallic iron, at the best inert, renders the combined phosphates insoluble, dissolution by the stomach acids being hindered rather than promoted. Naturally the entrance of the combination into the blood is effectually prohibited, iron finding no opportunity for absorption as an albuminate under such revolutionary circumstances, and the phosphates declining diffusibility. The three alkaline phosphates given separately or combined, will procure a certain physiological action, the ferric phosphate, given alone, is equally of physiological ability. But combine the four salts, and disappointment is the result, and theory of nomination is rudely set aside, the natural acidity of the gastric fluid proving impotent to the work demanded, and theoretically promised.

If we pursue the theory further, and follow Binz and Gorup-Bezanek in adding phosphate of ammonium, we gain nothing. The behavior of ammonia in the blood is not understood, in the first place; and in the second place, the disrespectful chemical action of the phosphate of sodium is equally applicable to phosphate of ammonium; According to the logic of chemistry the ammonium salt may be conducive to solubility of the combination, but while it acts as not neutralizing the gastric juice, it is either quite slow of entering the circulation, or else it manifests lack of oxidizing power.

But there is a corrective, an agent which is promotive of the solubility of the phosphates practically rather than theoretically. The monohydrated phosphoric acid, in its free state, renders the insoluble phosphates soluble in the gastric juice, and thereby favors their entrance into the blood. Believ-

ing it, I recognize no other way or method of securing the effects of the four salts than by the addition of the acid.

This is not new gospel. Thirty-three years ago, Wiegand gave in the *American Journal of Pharmacy* (March, 1854, p. 111 *et seq.*), a formula for what he denominated "a compound syrup of phosphate of iron." This was a combination of the four salts, but it seems to have carried no effect other than to inspire Prof. Proctor's somewhat famous dissertation on the pharmacal value of the phosphates. The elaborate sarcasm of the well-cut pen of Proctor fell short of its mark at first, but, though tardily, Mr. Edward Parrish finally used the same publication to give the denomination and formula of the preparation known as "Parrish's Chemical Food." As had been expected, this preparation proved to be a compound syrup of the phosphate of iron. The formula as published then (November, 1857) was as follows:

Protosulphate of iron, drs. x.
Phosphate of soda, drs. xij.
Phosphate of lime, drs. xij.
Glac. phosph. acid (phos of water), drs. xx.
Carb. of soda, scruples ij.
Carbonate of potassa, drs. j.
Muriatic acid.
Aqua ammonia, aa q s.
Powdered cochineal, drs. ij.
Sugar, lbs. iij.
Oil of orange, minims x.
Water, q. s. to make fl. ozs. xx.

The compounding of this preparation was something quite fearful and wonderful. Said a writer, in commenting on the formula when published, "The objection is not that each of the ingredients may not be useful, but that they are so numerous that a morbid state of system must be extremely rare in which they can all be indicated, and every medicine is more or less noxious if given when it is not needed. The probability is that the therapeutic value of the preparation depends mainly on its ferruginous ingredient, and that, as a rule, its therapeutic effects may be equally as well, if not better obtained, from a simple syrup of phosphate of iron."

Agreeable to this latter suggestion, a formula for such a simple syrup was given by Mr. Wiegand, which involved the solution of the recently precipitated phosphate of iron in muriatic acid, adding sugar as required. The same prolific pharmacist proposed a compound syrup of the salts of iron and calcium, by dissolving in the above a definite quantity of recently-precipitated phosphate of calcium, made by double decomposition between solutions of phosphate of sodium and chloride of calcium.

Parrish's phosphates gained a considerable degree of popularity, and even Bartholow, the conservative, especially recommends them in disease characterized by mal-nutrition. Though we are not talking of the hypophosphites, those much abused "syrups" are not more frequently prescribed for phthisis than this "chemical food" is for anæmia of the nursing mother, physicians and druggists not only prescribing it, but its virtues being so "celebrated" that the monthly nurse has it in her grip-sack.

A preparation more elegant in appearance and superior in palatability, is Robinson's Phosphoric Elixir, which is exceedingly popular in the South. Each fluid ounce represents:

Sodium phosphate, grs. xij.
Potassium phosphate.
Calcium phosphate, aa grs. iv.
Iron phosphate, grs. ij.
Free monohyd. phos. acid, grs. xvj.

This signifies an equality of thirty grains of the acid, free and combined. I have yet to find a better method of exhibiting phosphorus than this preparation affords. To be brief, it is used with decided advantage in atonic dyspepsia, chronic hepatic affections, impotence, pathological cerebral states dependent on anæmia, disorders characterized by mal-nutrition, debility, nervous exhaustion, etc. The appetite is promoted, the digestion facilitated, the body-weight increased,—in a word, constructive metamorphosis is favored, and the action of a general stimulant is obtained.

PROGRESS

A Monthly Magazine for Students and Practitioners of Medicine.

"I HOLD EVERY MAN A DEBTOR TO HIS PROFESSION; FROM THE WHICH AS MEN OF COURSE DO SEEK TO RECEIVE COUN-
TENANCE AND PROFIT, SO OUGHT THEY OF DUTY TO ENDEAVOUR THEMSELVES, BY WAY OF AMENDS, TO BE A HELP AND
ORNAMENT THEREUNTO. THIS IS PERFORMED, IN SOME DEGREE, BY THE HONEST AND LIBERAL PRACTICE OF A PROFES-
SION; WHEN MEN SHALL CARRY A RESPECT NOT TO DESCEND INTO ANY COURSE THAT IS CORRUPT AND UNWORTHY THEREOF,
AND PRESERVE THEMSELVES FREE FROM THE ABUSES WHEREWITH THE SAME PROFESSION IS NOTED TO BE INFECTED; BUT
MUCH MORE IS THIS PERFORMED, IF A MAN BE ABLE TO VISIT AND STRENGTHEN THE ROOTS AND FOUNDATION OF THE
SCIENCE ITSELF; THEREBY NOT ONLY GRACING IT IN REPUTATION AND DIGNITY, BUT ALSO AMPLIFYING IT IN PROFESSION
AND SUBSTANCE."—BACON.

VOL. II.

LOUISVILLE, KY., MARCH, 1888.

No. 9.

GENERAL MEDICINE.

HYPERTROPHY OF THE BRAIN.

BY

JOHN A. LARRABEE,
M. D.,

*Professor of Materia Med-
ica and Therapeutics,
and Diseases of Chil-
dren, in the Hos-
pital College of
Medicine, Louisville.*

A clinical lecture reported
for PROGRESS.

Those who were present at these lectures last year will remember the infant now before the class. For the benefit of the new members present I will briefly recapitulate the points in that examination together with the history then furnished by the mother.

Charles Ohlman, when first brought to this clinic, was sixteen months old and weighed 36 pounds. So you will notice that he was not emaciated. But the tissues were thick, the features blunt, presenting altogether the type of what is known in many works as the strumous diathesis—a condition often mistaken for healthy and often complimented as beautiful. You must not fall into this error of the laity, and consider adipose tissue a mark of health. I have seen, under the cover of superabundant flesh, advanced rickets, while in simple atrophy, even going on to the death of the infant, no rachitic symptoms presented. The head was broad and flat upon the top, with bulging occiput, posterior fontanelle closed and the anterior rather more depressed than elevated, with some prominence of edges. Measurements, as recorded, were

11 inches over top and 19 inches in occipito frontal circumference. He was totally blind, pupils dilated and fixed; appetite good, and all the animal functions properly performed, with the exception that he was habitually constipated. Dentition well advanced, fully up with the age. When the order was given to strip the child according to our custom, I stated that it would not surprise me to find the body covered with silky hair. Some of you will remember the applause when it could be seen from even the remote seats in the amphitheatre. I regard this—*caeteres paribus*—as a very strong point in the scrofulous diathesis, just as I do the freckle-faced candidates for tuberculosis.

He was unable to support his head which rested upon a pillow in his mother's lap. His mother stated that the first departure from what she considered health was at the age of 13 months, at which time he was seized with a very severe convulsion, followed by febrile disturbance on account of which she consulted a physician. The convulsions were repeated at short intervals, as also exacerbations of fever. One of the convulsions lasted for seven hours without interruption. The size of the head now began to attract attention, and it was noticed that he was unable to support it in erect position, also that he was unable to stand although able to move limbs freely. The physician diagnosed *hydrocephalus chronica* a condition for which, we shall see

presently, hypertrophy is very liable to be mistaken. It was during these three months prior to his being brought to the clinic that he was noticed to have become blind.

I will now call your attention to Charley as he appears before you to-day. He is still unable to walk although he makes the attempt; you will notice that he sits very well and does not roll the eyes about as he did before, which gives him less the appearance of an imbecile. See! I take this fine Marsechal Niel bud from my coat and hand it to him. He takes it greedily, and says, "Flower!" I hold my watch five feet from him, he prefers it to the rose. He says, "Clock! clock!" so you see vision is again present. The hearing has never been affected in this case. The measurements are the same, but the skull is more firmly ossified. His words are monosyllables but very plainly spoken. His weight to-day is 35 pounds, or one pound less than when we saw him a year ago. He has twenty teeth, all firm and regularly set showing no sign of premature decay.

The principal interest in this case attaches to the diagnosis. Hypertrophy of the brain is neither a rare or common condition. Very many people have tremendous heads without having an extra amount of "good sense." The brain of a child has been known to weigh 43 ounces. Many of these cases of cerebral hypertrophy may be seen in asylums for the insane and feeble-minded. At Frankfort, in this State, there is an asylum for feeble-minded children where you can study and compare cases of hypertrophy with cases of atrophy and microcephalus. Some of these cases have resulted in complete imbecility, others in simple backwardness which, under the excellent management, have been brought out so as to astonish us.

Kentucky may well be proud of her various eleemosynary institutions. The condition known as cretinism, in Switzerland and Savoy, is supposed to be allied to hyper-

trophy, and both may be traced to mal-nutrition or rachitis. An instance of this with eclampsia nutans has been presented at these clinics. The mother was the subject of goitre. You must not get the idea that every head that is unusually large or misshapen contains a hypertrophic brain any more than that large heads are necessarily "water heads." There is probably as much variation in the proportion of the heads of people as in their hands and feet.

If the brain of this child could be taken out of the calvarium and examined, we should probably find very little, if any, fluid in the ventricles. It would be difficult to replace it again within the skull. We should find the convolutions flattened and the sulci partially obliterated.

It would present an anemic appearance. What, then, is hypertrophied? Certainly not the gray matter; for these big heads have very little sense. Let us see. When we want to pack some very precious material for shipping we place the articles carefully in a box, which is the involuera, and then we fill in all the interspaces with saw-dust, bran, or chaff; so in the construction of the important organs of the body where cell activity is required as the acini of the liver, the air cells of the lungs and the cerebral cells, surrounding tissue is the packing and it is this tissue which is increased in hypertrophy. Such growth is always at the expense of the more important structures. In the liver, under the stimulus of alcohol, it crowds the acini (hypertrophic cirrhosis). In the lung, under the influence of specific disease, it crowds the air cell, and in the brain, the change in nutrition by constitutional disease causes the same condition to obtain. Syphilis and scrofula are potent factors in the increase of this kind of tissue. Rokitska, after much microscopical study of these cases of cerebral hypertrophy, favors the idea of albuminoid infiltration of that structure.

Pathologists inform us that in cases

of hypertrophy of the brain this organ presents a white, glistening appearance, and that a similar hardening may be produced by alcohol. Observation and statistics show a great percentage of idiots belonging to drunken parentage. In some cases of hypertrophy the optic bulbs have been found so changed as to cut like gristle. So it will be seen that the symptoms which marked this case were due to pressure. So long as the fontanelles remained patulous all was well. The principle interest attaches to the diagnosis of hypertrophy, and the condition most similar is hydrocephalus. In the latter the fontanelles are widely open, even extending into the frontal bone.

I will illustrate with the chalk and blackboard, although I doubt not we shall have some cases of hydrocephalus presented before the class. You see that the shape of the head is quite different, that in the "water head" the bulging is frontal more than occipital with an increase of the fontanelle, making the head contrast strongly with the lower part of the face, thus, like a wedge, the fluid pressing the brain upwards if within the ventricles, so changes the orbital plates of the os-frontis as to make them perpendicular instead of horizontal, and the eyes partly covered by the lids are turned downward, showing the white sclerotica above. This is diagnostic, with the exception of those rarer cases in which the fluid is external to the brain and the pressure is from above downward, in which, of course, the axis of the eye is not changed. In hypertrophy we have the greatest measurement parietal across the top of the head and posteriorly the bulging occiput. The question of intra-cerebral growths should also be considered in the diagnosis.

Some time ago I diagnosed tumor of the brain in an adult, but although there was total blindness the paralysis was unilateral. The sectio-cadaveris in this case revealed a large glioma in the right hemisphere. Of

course there was no improvement by time or treatment, and after great suffering death ensued. In that case great interest attached to the involvement of different centres as shown by loss of function in conscious thought, speech and motion. Finally some interest attaches to the case of the child before us in that it has so far improved. The mother is delighted, and is unsparing in her laudation of the treatment. I must confess that as I grow older in practice I become less credulous as to medication in chronic disease. It is so difficult to know how much belongs to therapeutics and how much to natural causes.

This child has had iodide of potash or sodium with muriate of ammonia steadily in increasing doses three times a day for a year. The constipation has been relieved by interrupted doses of calomel. In the meantime the mother has given birth to a child now three months old. We shall watch with interest its developments.

PEROXIDE OF HYDROGEN.

BY

I. N. LOVE,

M.D.,

Consulting Physician, St. Louis City Hospital, and Editor Weekly Medical Review.

Read to the St. Louis Medical Society, February 4, 1888.

am aware that there is a disposition upon the part of some workers in the profession to decry the merits of those whose efforts tend in the direction of therapeutic investigation and the application of remedies to the relief of disease, the rather appreciating pathological research and the study of the phenomena of disease.

Fully recognizing the importance of closely and carefully scrutinizing the anatomical, physiological and pathological panorama which may be presented to our view, I cannot refrain from suggesting that after all the main object to be attained is the relief of suffering and the prolongation and saving of human life.

The most profound pathologist would be

powerless for good did he not have as an ally the delver among drugs searching for the means of mastering the microbes which he has discovered, and the studious, thoughtful, practical physician, accomplishes the greatest amount of good, and secures the most substantial success who promptly applies the knowledge gained by both workers and all are co-laborers aiding the securement of that grand millenium when man will pass from the cradle of his second infancy without the shadow of suffering or a thought of disease.

Huxley has said that an exhaustive study of drugs on the part of physicians was not necessary to their proper application to the cure of disease no more than a complete knowledge of the manufacture of surgical instrument was necessary to their successful use by the surgeon, however, a practical familiarity with the make-up and mode of action of these medical and surgical tools is essential to their graceful and efficient use.

The medicament to which I propose to direct your attention in this short paper is the "Peroxide of Hydrogen" the formula for which is H_2O_2 and which was discovered in 1818 by Thenard by adding dilute acids to peroxide of barium. Meissner, in 1863, proved its presence in the rain water collected during thunder storms, and this has been corroborated by Schonbein, Struve and others. The usual preparation of a solution of peroxide of hydrogen depends upon the decomposition of barium peroxide by hydrochloric acid (carbonic or hydrofluoric acid may be used) in the presence of ice cold water, and the precipitation of the newly formed barium chloride by means of sulphate of silver. Such solutions usually contain about 3 to 5 per cent. of the peroxide, and are concentrated by freezing, the last portion of water being evaporated *in vacuo* over sulphuric acid at a temperature not exceeding 68 degrees Fahrenheit. In this form it is a colorless, transparent syrupy liquid with a specific gravity of 1.452, does not congeal at 22 degrees below zero (F) volatilizing slowly and without decomposition at

the ordinary temperature. It is decomposed when exposed to the sunlight, or when heated or brought into contact with charcoal, silver, gold, the platinum metals, the oxides of maganese, alkalies or any other compounds. In this concentrated form the peroxide if brought under the conditions favorable may decompose with explosive violence, and in the presence of the oxides of the metals mentioned they are reduced to the metallic state.

Many other bodies act less energetically or are oxidized. Litmus and tumeric paper are gradually bleached, and the skin may be turned white by its application, accompanied by itching. In the strength to which I am now referring it is without odor and has a harsh and bitter taste, soluble in water in all proportions, which solutions are decomposed by the same agents as the pure compounds but less violently. They are made more permanent by adding a small amount of mineral acid.

The commercial peroxide of hydrogen is a 3 per cent. aqueous solution, and is prepared on a large scale for the bleaching of animal products such as feathers, hair, silk, bone, etc. It is known as ten volume peroxide of hydrogen, owing to the fact that it yields about ten volumes of active oxygen which may be estimated by adding a sufficient amount of sulphuric acid, and afterward a standardized solution of potassium permanganate as long as the latter is decolorized. From its very nature this agent should be a powerful antiseptic and a destroyer of microbes: anything which accomplishes oxidation as rapidly, if it can be applied safely, must be an excellent application to purulent surfaces.

It has been administered internally for diabetes, but without success. Its recommendation for some forms of atonic dyspepsia would seem to be reasonable since we know that condition to be frequently due to a catarrh of the gastric mucus surface accompanied by excessive secretion and fermentation.

I find there is considerable variation in the effectiveness of solutions coming from different drug stores; this may be due to a failure to protect it from the sunlight. It should be kept in opaque bottles at a temperature not above 77 degrees.

I have secured uniform satisfaction from the solution manufactured by the G. Mallinkrodt Chemical Company, of St. Louis.

The clinical application of a remedy is the best test of its value.

As a contribution to the fund of knowledge upon this subject, I herewith present the following cases of scarlet fever and diphtheria.

R. H., aged four years, and unusually intelligent and interesting boy, developed scarlet fever December 22, 1887, a pronounced case, temperature vibrating for several days from 102 to 104, throat quite sore, some disposition to ulceration upon both tonsils; within a week symptoms much modified, temperature ranging in the neighborhood of 100 where it remained for four days, child being quite playful but not permitted to get out of bed. At this time diphtheria became a complication involving the pharynx and the nasal passages. The secretions from all the mucus surfaces were very profuse and purulent in character, and suffocation at times seemed imminent from its accumulation, and the odor was extremely offensive to the patient as well as the attendants.

A well organized febrinous exudation appeared over the surface of the tonsils well forward to the palate and upward into the posterior nares. The submaxillary and sublingual glands were much enlarged and engorged. Wherever a mucus surface was visible, if not covered with diphtheria membrane, it was violently inflamed nearly to the point of ulceration and exuding a purulent and almost disgusting discharge.

Temperature ranged in the neighborhood of 104 and 105, and almost constant paroxysmal cough was present, due to the gen-

eral irritation and accumulated secretions, and at times a marked asthma was present owing to reflex irritation dependent upon the inflammation of the posterior nares. The general conditions were alarming, the child being in almost a state of frenzy owing to his many discomforts. I shall not give in detail the notes of the case, as I only cite it as an illustration of the value of a particular remedy to relieve a particular series of symptoms. Having been using the peroxide of hydrogen in various strengths for some months as a purifying and stimulating wash for purulent ulcers, sinuses and fistulas, as well as diphtheria, I concluded to use it as an application in this case. Diluting it one part to two of water, for application to the nasal passages by means of a syringe, and using it in its purity by means of probang and absorbent cotton to the pharynx, I soon had the satisfaction of seeing the pus and accumulated mucus cleaned out from all the surfaces as if by magic. The child was a bright little hero, and though semi-delirious, he helped materially in its application and also in the removal of the oxidized purulent matter. The nasal passages front and back were soon cleared out well, the fauces as well were kept in a comparatively clean condition. A good opportunity was now presented for applying the solution in its purity to the membrane direct, and the disintegration of the same was accomplished after repeated application in a very decided manner. Wherever the solution came in contact with organic matter a marked effervescence and bubbling ensued and a breaking down of the accumulation or exudation and throwing off of the same occurred. The beneficial effect of the application was apparent, all the distressing symptoms were much abated and within three or four days they had passed away. One thing quite noticeable was the fact that the constant spasmodic cough subsided after the removal of the purulent secretions from the nasal passages. The success in this case was similar to that in six other cases,

and I quote this one as illustrating the class not desiring to indulge in repetition by reporting them all. This child was in a most dangerous condition for many days and nights, and I do not claim that the peroxide of hydrogen saved him, but it certainly helped to do it in that it enabled me to combat the local poison, acting as an antiseptic, a germicide of the most pronounced character, a remover of purulent septic matter and offensive odors, aiding in the conservation of comfort to patient and attendants.

Constitutional measures were of course never lost sight of, constant attention being directed to excretion, sedation, stimulation and nutrition. Other local measures were of course used, the peroxide serving as a means of "clearing the track" for the application of soothing and healing ointments to the nasal passages and the spraying of all the surfaces with listerine and other remedies, as indicated.

En passant at this point permit me to remark that I have no patience with the practitioner who permits himself to be overcome by a physical, mental and scientific inertia so that he can sit idly by and trust entirely to the *vis medicatrix naturæ*.

If one's house is on fire and he trusts to nature instead of turning on the hose the chances are that he will sleep on the commons unless a friend takes him in.

The "Therapeutic Nihilist" had better change his calling. The practitioner with no faith in physic, who like Solomon cries out, "All is vanity," gives evidence that he has mistaken his vocation, or like Solomon, indicates that it is time for him to abdicate. What would one think of a soldier who was ever decrying the merits of his cause and gun? Either that he had a poor cause and an inefficient gun, or didn't understand the one and didn't know how to use the other. In the management of no disease, in my judgment, is it so necessary for the attendant to be ever on the alert, as in diphtheria. He should sleep on his arms, so to speak, with one eye open. Anticipate

his enemy rather than run the risk of a surprise. Well supplied with ammunition, ready to use it; "Not too much, but just enough," and possess an abiding faith in its efficacy.

In wrestling with disease, let us pursue the course with remedial agents that we do with friends. Study them, try them, weigh them in the balance thoroughly, and if not found wanting, adopt them and trust them. Then let us stick to them as long as they prove faithful. If they fail us and a better one be presented accept it, if it stand the test and prove worthy. In short let us not drop an old friend for a new unless the first prove false and the second give evidence of virtue most true.

As an adjuvant in arresting the destructive tendency of diphtheria, I am persuaded that the peroxide of hydrogen will stand the test of time.

Purulent ozæna and chronic nasal catarrh. I have applied the peroxide of hydrogen in strengths varying from one part to three or six of water in four cases of the above character during the past month. Very favorable reports have been given me, enough so to justify me in considering it of great value in this trouble. A sufficient time has not elapsed to enable me to determine whether it will secure a permanent cure. The application was made three times daily.

Acute coryza. The peroxide in proportions of one to four of water was applied freely by means of a syringe through the nostrils. A hard rubber syringe gently throwing about two tablespoonfuls into each nostril while the head is thrown backward. It passes back through the posterior nares carrying the completely oxydized mucus secretion with it. A free sneezing and perfect discharge follows. The application made about once in four hours in the beginning, and less frequently later. Three such cases were greatly relieved after first application and cured inside of a day or two. It is well known that influenza, in some cases

at least, is dependent upon some irritating germ, and possibly the agent used above killed the microbe.

Whooping cough. In two cases where the paroxysms were frequent and violent I have had great satisfaction in seeing the frequency and severity much modified by the use of the peroxide (1 to 4) twice daily and the attack was unquestionably cut short.

Reflex Asthma. Two cases of reflex asthma intercurrent during an attack of diphtheria, and a general catarrhal fever, dependent upon the irritation in the post-nasal space were promptly relieved after a few applications of the peroxide (1 to 4).

Follicular Tonsilitis. Very satisfactory results were obtained by using the remedy as a gargle (1 to 3); every two or three hours listerine, callendule, tincture of iron and other soothing, stimulating and astringent remedies were used by the atomizer between the intervals.

Hay fever. I have not used the remedy in this trouble, but would suggest from the manner of its action that it is worthy of trial.

Cancer of the womb. In this affection I have had great satisfaction in using the peroxide in its purity as a cleanser, deodorizer and stimulator of healing in that portion of the ulceration probably dependent upon the irritating effect of accumulated purulent matter.

The gratification and comfort to patient and attendants secured by the application well repaid its use. One who has never observed the horrible stench in the room of a neglected cancer of the womb can have any conception of the value of the drug in this connection. Dr. Joseph Grindon, a dermatologist of St. Louis, informs me he has used the agent to remove pigment spots from the skin.

This is the main remedy furnished by dealers to weak-minded women for blinding the hair.

It is needless for me to continue to cite

cases and conditions where the peroxide of hydrogen will prove of value.

I think it worthy of trial in gonorrhea.

After a six months' trial of the peroxide of hydrogen, considering the nature of the agent and its effect upon purulent matter and bacteria, I feel justified in determining:

1. The peroxide of hydrogen is a most efficient means of cleansing purulent surfaces, deep cavities and sinuses and stimulating the healing process in ulcerating parts.
2. As a destroyer of microbes it is of great value as a local application in diphtheria and scarlet fever, ozæna, coryza and whooping cough.
3. For the above reasons it should prove of value in gonorrhea, hay fever and similar conditions.

KEITH'S

MORTALITY.

In discussing the paper of Dr. Eastman published in the January number of PROGRESS, Dr. Wathen said, "the mortality of Dr. Thomas Keith's laparotomy operations the last three years has risen from under 2½ per cent. to 5 per cent., the result of the great number of deaths in hospital operations." In the published report of his remarks, by an error, the mortality is put at 65 per cent.

A PUBLIC

BENEFACTOR.

Mr. J. W. Fowler, President of the Kentucky Pharmaceutical Association, and of the Louisville College of Pharmacy, has been doing some very effective and important work, both individually and as editor of the pharmaceutical department of our esteemed confrere, the *Medical Herald*. Mr. Fowler has, almost unaided, been able to secure some important legislation, for which the people of Kentucky owe him a lasting debt of gratitude. PROGRESS is pleased to salute Mr. Fowler as one of the most eminent and successful pharmacists, one of the ablest and best journalists, and one of the most intellectual and upright citizens in this commonwealth.

GENERAL SURGERY.

HYPERTRICHOSIS.

BY

A. H. OHMANN-DUMESNIL,

A. M., M. D.,

Of St. Louis.

Report of a rare case in the
Journal of Cutaneous
and Genito-Urinary
Diseases.

In 1865 I had the opportunity of observing a case which presented some points of interest. The following is a brief history, obtained from the patient at the time he presented himself:

Mr. G——, aged thirty, and following the occupation of a car conductor, is tall, of spare build and shows evidence of not being well nourished. He has a strong growth of hair in general, the color being a dark brown. He has a luxuriant growth on his head, his beard is strong, and he is well provided with hair upon the chest, in the axillæ and upon the pubes. He states that he has always enjoyed pretty fair health. When quite a boy he ran away from home and went to sea. At the age of sixteen he served on shipboard as an ordinary seaman.. About this time, while engaged in his duties, he one day fell from the shrouds to the deck. He sustained but very slight injuries, being stunned more than anything else. He was, however, “laid up” (as he expressed it) for a few days. He was merely enjoined rest, no local application being made, and he was soon up and about attending to his work as usual. A little while after the occurrence of this accident, the exact length of time not being obtainable, he noticed the strange growth of hair shown in the accompanying cut.

The site involved is located in the lumbar region, some little distance above the internal cleft, and the area involved is about two inches by three and one-half. The hair which grows here is curly, of a nut-brown color, soft and silky in texture, quite fine and eight inches in length, at its longest part. The hairs are quite numerous, being almost as closely implanted next to each other as upon the scalp. No other portion of the body is affected in a similar manner.

The shape of the affected area is somewhat ovalish, the large axis of the oval lying horizontally across the trunk and extending on each side about an equal distance from the median line, or rather a little more to the left, as shown in the figure.

The patient states that he has never applied for any means whatever for the removal of the hair. As the hair grows inconvenient by reason of its length, he simply cuts it off with scissors. The extreme length to which it will grow has not been ascertained by him. He asserts, with how much truth I am unable to state, that he has had this growth three feet in length, having deferred cutting it in order that he might see how long it would grow. It is hardly probable that this length was attained.

An interesting point in connection with this case is the location of the growth. It is not usual for acquired hypertrichosis to show itself in the lumbar region, in cases where no external applications have been made to the locality which is the subject of this excessive development of hair. And upon this point the patient is very positive—no external applications whatever were ever made to the part implicated. When he met with his only accident, on board ship, the injury was so slight that only a small amount of rest was deemed necessary. He is equally positive that, at the time of this accident, there was no unusual growth of the hair in the region which is implicated.

This naturally leads to a consideration of the cause of the hypertrichosis in this case. It was evidently not due to an injury of the nerves; for, in that case, there would in all probability have disappeared when the nerves again became normal, as I have had an opportunity to observe in a case. At present, the nerves are all in a normal condition, as also the brain and spinal cord, and, after a lapse of about twenty-two years, the hairs still remain. Evidently, we must look somewhere else for the cause. We cannot invoke the theory of local irritation due to exposure of the skin to the sun and air, as

the affected part was protected from such influences.

One of the peculiarities in this case is the length to which the hair will grow if allowed to do so. As a rule, hairs upon the trunk do not attain the length of those in special localities, such as the face and scalp, although upon the chest and along the spine they may attain a length of several inches in some individuals. Sometimes a few isolated hairs around the nipples will grow to a length of six or seven inches, but they are few in numbers on the same subject.

Bartels has characterized the condition under consideration as "heteropy of trichosis," from the fact that there is a circumscribed hypertrichosis occurring on a portion of the integument, which otherwise is apparently unchanged. It is in the sacral and in the lumbar regions, the latter more often, that this form is found to occur. It sometimes happen that it will be complicated by a spina bifida, when present in the lumbar region. Dr. Paul Michelson (Ziemessen's Handbook of Skin Diseases) looks upon hypertrichosis in the unchanged skin as genetically equivalent to that on a thickened and pigmented skin.

To return to the pathogeny of hypertrichosis, we find that three principal cases are recognized, viz.: heredity, neurotic influences and cutaneous irritation. The case recorded above cannot be relegated to the first-class, as the history shows it was acquired. For this reason, it is not, strictly speaking, heteropy of trichosis, as Bartels applied the term to those cases which are congenital. Neurotic influence could not be made out in the case; yet it is not beyond the range of possibility that the patient, in falling to the deck, had his spinal cord sufficiently disturbed to produce the condition necessary to account for the growth of hair. On the other hand, it seems but natural to conclude that the hair should have disappeared when the accident causing its presence had left. The third possible cause had already been disposed of, and we still re-

main without any adequate or satisfactory cause to explain the condition. The etiological factor is obscure, in general, in cases of hypertrichosis, and it is, at best, quite a difficult matter to determine the cause in a large number of cases.

In conclusion, I wish to state that the relative amount of hair, and the area of the surface involved, have been constant, according to the statement of the patient. There has been no change in the condition since he first observed it. He has persistently refused to have the hairs permanently removed, preferring to cut them off from time to time, and thus avoid what he thinks would prove a terrible ordeal.

SURGICAL
TREATMENT OF
SKIN DISEASES.
BY

L. BROCC.

*Observations of the Clinical
service of Dr. Vidal
at the St. Louis
Hospital, Paris.*

*Journal of Cutaneous and
Genito-Urinary Diseases.*

Dr. Vidal has some predecessors in this line, and we may cite among them Angello Dubini, of Milan, who practiced punctures in lupus tissue, to facilitate the penetration of the ointment of the biniodide of mercury.

Veiel also made punctured scarifications as close to each other as possible, so as to penetrate to the bottom of lupus neoplasms, and to lacerate the tissues and induce mortification, and to sever the majority of the vessels which nourish them. After this operation he covered the parts with a mixture of equal quantities of chloride of zinc and alcohol.

Volkman (of Halle) first scraped and abraded lupus neoplasms with large curettes, and three or four days after, when cicatrization began to take place, he made a large number or pricks with a straight bladed knife very close to each other.

Balmanno Squire (of London), after having attempted to practice scraping of lupus surfaces with curettes of smaller dimensions than those of Volkman, became satisfied with scarification of the diseased

parts with a double bladed, lozenge shaped pointed knife or needle; these scarifications were parallel and at two millimeters distance from each other.

Two or three days after the first operation he made new cuts at right angles to the first, or obliquely across them. Like Veiel, he cauterized the scarified surface with a solution of chloride of zinc in alcohol.

METHOD OF GENERAL
LINEAR
QUADRILATERAL
SCARIFICATIONS.

All the preceding attempts, and especially those of Balmano Squire, are most inter-

esting, but we must recognize the fact that the honor of having found the true procedure, and the one really practical and efficacious, belongs to Dr. E. Vidal. He also deserves the credit of pointing out the modifications necessary in the procedure according to the nature of the case, and of having generalized the method and made it applicable to the treatment of a variety of cutaneous affections other than lupus. His first researches in this direction date back to 1874, and are contemporary with those of Balmano Squire.

Instrument.—The instrument which Dr. Vidal at present uses in making his scarifications has undergone many modifications, until now a model which seems to be perfect is manufactured by Dubois in Paris. It consists of a small flattened steel blade twenty to twenty-five millimeters (2 to $2\frac{1}{2}$ centimeters) long, and about two millimeters wide. At about a centimeter from the point, this blade presents two cutting edges, exactly symmetrical at either border, separated from each other in the median line of the blade by a delicate and slightly marked projection. The triangular point from one and a half to two millimeters in length is only the prolongation of the two preceding surfaces. It also has two cutting edges which grow gradually thinner to the extremity (an angle of 55°). This blade is mounted in a square handle eleven centimeters long, slightly bulging in the central portion,

where it is about five millimeters wide. It is seen that such an instrument would be most easily managed, and that in experienced hands it can be used to puncture, cut and lacerate in every direction, and as deeply as is desired.

Manner of using.—To make scarifications with this instrument, which bears the name of Vidal's Scarifier, it is delicately held like a writing pen, without force but firmly, without pressing it between the fingers. This is usually directly obliquely to the surface of the skin to facilitate its penetration; but the incisions must always be made perpendicular to the surface, that is to say, the incision produced should be vertical and not oblique in reference to the surface of the integuments. When the first incisions have been finished, a second or a third series is made parallel to the first, and so on, then the first series of rectilinear lines is crossed by other rectangular incisions placed at the same distance from each other as the first, and ordinarily oblique in reference to them, thus forming with them angles varying from 30° to 60° , the average angle being 45° . This second series of incisions can themselves be obliquely crossed in lupus by a third and fourth series. The depth to which the instrument should penetrate, the distance which should separate the incisions from each other, and the length of the incision, are points which vary according to the nature of the affection, and according to the particular case.

HEMORRHAGE—
SUBSEQUENT CARE.

It is easily understood that consecutive hemorrhage should result from these incisions, should vary with their depth, number and location, and with the subject operated upon. Ordinarily, the first operations cause a loss of blood much more considerable than the subsequent ones, and this is easily understood, since little by little the small vessels of the region are divided in all directions, and become obliterated. Whatever hemorrhage takes place from these op-

erations it never becomes dangerous, and is always quite easily arrested by applying over the scarified region an ordinary tampon of simple or absorbent cotton, or of cotton rendered antiseptic by corrosive chloride or salicylic acid. The flow of blood is thus arrested almost instantaneously, but should it not be, compression over the cotton for a few minutes will suffice. It must be further understood that no matter how deep the incision must be carried to be effectual, there is a rule, which for my part I consider absolute or nearly absolute, that they should never or almost never divide the derma in its whole thickness, for in this case vicious scars would result. We see, then, that it is impossible in applying this principle ever to have very serious hemorrhage, since we are but rarely likely to divide the large vessels (veins and arteries) of the hypoderm.

If, however, in an exceptional case, the bleeding should continue in a given point, we may touch it either with the point of a nitrate of silver stick, or with the fine point of electric wire at a dull red heat. Subsequent dressings are of the most simple nature, and usually permit the patient to return at once to his ordinary occupation. The dressing varies according to the nature of the affection, and we will indicate it in speaking of each one separately. Often it is only necessary to apply, morning and night, a slightly antiseptic wash, such as a weak solution of boric acid, corrosive sublimate of phenic acid. The incisions thus carried out generally heal with the greatest rapidity; ordinarily by the end of the third or fifth day cicatrization is complete, and it is possible to repeat the operation six or seven days after the preceding one. Dr. Vidal repeats his operations regularly every week, with an interval of eight days.

Local anæsthesia—These operations are painful to a greater or a less degree according to the region. The most painful localities are, first of all, the upper lip and all parts of the end of the nose, the eyelids, the

under part of the chin and the neck. It is not necessary to put the patient to sleep with chloroform or ether, but local anæsthesia may be practiced by freezing the part to be operated upon.

Dr. Vidal has for a long time employed for this purpose a spray of anæsthetic ether, or Richardson's mixture, used in England under the name of Compound Anæsthetic Ether. He prefers it to the pure ether and to the bromide of ethyl. He has noticed that by putting a few bits of cotton near the point against which the spray jet is directed, that the congelation takes place more rapidly. For the past few weeks he has used a new method, due Dr. Bailly (of Chambly, France). This ingenious practitioner has found a means of keeping the chloride of methyl in a liquid state, by preserving it in a tube of glass, surrounded by another larger glass tube; a vacuum is produced in the interval, separating the two tubes, and the evaporation in the receptacle is thus reduced to a minimum. To use this agent, a small quantity is poured upon a tampon of dry cotton (non-absorbent), covered with oiled silk and held against the part with hard rubber, or other non-conducting forceps.

The tampon thus prepared, if moistened, with the chloride of methyl, at a temperature ranging from 20° to 55° below zero, remains active for a period ranging from 15 to 45 minutes. It is only sufficient to apply it to the part to be operated upon for a few seconds, to observe the tissues whiten and congeal. The anæsthesia, or rather the congelation of the skin, will be produced to a greater or less depth and more or less completely, according to the length of time that the tampon is left on. This process of refrigeration is an entirely practicable one. The operator has by his side the tampon already prepared with the chloride of methyl; he applies it to the part he desires to scarify, removes it quickly, practices the scarification, renews the applications to the neighboring regions, and so

on. Anæsthesia may equally well be effected upon the bleeding surfaces by this method, if a piece of gold-beater's skin be interposed between the bleeding surface and the tampon. The operation then becomes a rapid and painless one. Local anæsthesia even practiced by the new process which I have just described, and which both Vidal and Besnier already employ regularly in their service, presents, however, some real inconveniences. The operator no longer sees clearly the diseased points which he desires to touch, for the diseased parts, as well as the healthy tissue, have all become white. He is no longer guided by the resistance to the knife, so marked between the diseased and healthy parts, for now all are the same, the operation is consequently not so well done when local anæsthesia is used. When ether is employed, as soon as the circulation begins again the patient experiences severe pain and the blood flows freely. It seems that with the chloride of methyl the consecutive reaction is less painful.

The subcutaneous injection of chloro-hydrate of cocaine, practiced at intervals of two centimeters in the part to be operated upon, does not present the same inconveniences. I have been able to use it in some cases, and in one patient in particular, a very nervous and impressionable man of thirty-eight years, with acneform lupus of the right cheek, chin and upper lip. I was not yet acquainted with the practical use of the chloride of methyl, and ether could not be borne. I made four or five injections of cocaine in the upper lip, introducing under the skin about seven or eight milligrams of the salt at each puncture. Five minutes later the sensibility of the part was so blunted that I proceeded with the operation without the least inconvenience, the patient scarcely suffering at all. Some slight symptoms of general intoxication followed. It is true that in another patient I observed a true case of acute poisoning following a subcutaneous injection of two centigrams of the salt. Local anæsthesia, by injection of

cocaine, offers the great advantage of neither modifying the natural color of the parts nor the consistence of the tissues. It permits as exact an operation as though the integuments were not painless, but it has the rather serious inconvenience of giving rise at times to symptoms of general intoxication. When the patients are cowardly or when the operations are really too painful, it is well, at times even necessary, to have recourse to local anæsthesia, but I persist in believing, that in spite of the recent perfections, it is preferable for the operator and for the regularity of the operation, not to employ it when it is possible to dispense with it.

TREATMENT OF LUPUS BY SCARIFICATION.
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It is especially in the treatment of lupus that linear quadilateral scarifications have been applied, and they have given, in the hands of Dr. Vidal, in this disease, results which have really been surprising. We will not occupy ourselves here with the many theoretical questions that might be raised in regard to lupus, but will content ourselves to recall to our readers in America, that, according to the views of Dr. Besnier and Vidal, the group "lupus" comprises two great varieties: First, <i>Tuberculous lupus</i> , accepted as a lupus, or a variety of tuberculosis of the skin by all the schools; and, second, <i>Erythematous lupus</i> , which these two authors place in the same morbid group as the former, and which many dermatologists regard as a distinct affection. Both varieties justify scarification.

TUBERCULOUS LUPUS.

Whatever may be the form of tuberculous lupus that we have to treat, two principal rules govern the treatment: First, always to go to the limits of the disease in depth, and reach, with the point of the scarifier solid, healthy tissue, for otherwise we would leave intact the deeper parts of neoplasm, and recurrences, starting from the deep parts, would be constant and disastrous. Second, to arrest, first of all, the invading march of

the disease upon the surface, and for this, we must pass with the scarification beyond the apparent limits of the lupus, infiltration several millimeters, for the vessels of the periphery are dilated and diseased, around them a proliferation of embryonic cells has taken place, and this proliferation must be attacked and destroyed, under penalty of seeing the disease progress. We must not fear to make incisions into the healthy skin, for, provided that they do not invade the whole thickness of the skin, they will not leave cicatrices. This rule, to attack first of all the whole periphery of a lupus of extensive advance, by acting upon the healthy tissues, is of so great importance that, in cases of extensive lupus, Dr. Vidalis satisfied with treating the borders of the patch alone.

The scarifications must be made as closely together as possible, but the true rule of conduct is to cut up the neoplasm in all directions to lacerate the tissues, and to penetrate to the base of the tubercular deposit, but on the other, hand to spare, in a degree, the tissues relatively healthy which are found enclosed in the neoplasm. When one has acquired a certain dexterity in these operations, all of these details become easy. Guided by the differences of resistance of the tissues, the instrument, held without rigidity, is forced into the tubercles, and, turned in all directions, lacerates the morbid products.

<p>LUPUS VORAX.</p>	<p>It is especially when we have to do with lupus vorax that we must not fear to produce too much damage. Nothing is comparable to scarifications to arrest the extensive march of this affection; but we must, first of all, reach the limits of the disease, that is to say, the instrument must be plunged into the morbid tissue up to a point at which a sensation of resistance is experienced; in other words, until we have reached healthy tissue. It is necessary to hack the tissues up in all directions, to cross and recross those incisions in such a way as</p>
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to reduce to a pulp all the morbid tissues which care is taken to leave in place and not remove. The patch is to be touched with a tampon of cotton wet with the perchloride of iron. Cicatrization takes place with the greatest rapidity, and five or six days later it is possible to begin over again. Ordinarily, it suffices to make from two to four such operations to arrest the progress of an extensive lupus vorax.

Ulcerating tuberculous lupus, and lupus tuberculosus non-exedens are to be treated according to the rules already given.

<p>LUPUS WITH ISOLATED TUBERCLES.</p>	<p>After a certain number of scarifications, the tissues are seen to shrink, to become more firm and bleached, and we come to what Dr. Vidal has called <i>the period of improvement</i>. In the cicatrical tissue of new formation, little yellow points are noticed, as large as the head of a pin, or at times so small that the surface must be made wet, to allow of their being seen. These are so many lupus tubercles all ready to bud, which must be attacked at once. For this purpose the needle is plunged into their interior as deep as necessary to reach the healthy tissue, and they are broken down in all directions one by one. The same treatment is extended to lupus characterized from the first by isolated tubercles. It is at times appropriate, after having thus attacked each tubercle, to make in addition over the whole surface a series of quadrilateral linear incisions. It should be stated, moreover, that the more we scarify a cicatrix of lupus in following the rules already laid down, the more we benefit it, the skin becomes whiter, more supple and more smooth.</p>
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Consecutive care.—As soon as the hemorrhage is arrested, Dr. Vidal sprays upon the operated region a solution of corrosive sublimate (1 to 1,000.)

The patients then go home without any dressing. This treatment does not necessitate remaining in the hospital. The lupus

patients can go about their usual vocations as soon as the operation is finished. It is well, upon the evening of the operation, to wash the parts scarified with a solution of corrosive chloride (1-2,000), and the following day cover over the region with some Vigo's Mercurial Plaster. This plaster should be kept constantly applied, changing it morning and night, and washing each time with a sublimate solution. If the inflammation produced by this plaster is too strong, it should only be applied at night, and during the day a little oxide of zinc or boric acid ointment should be kept on. There are some patients who can not tolerate this dressing, and in such case the vigo plaster is replaced by a plaster, for which Dr. Vidal has given the formula, and which is well known at the St. Louis under the name of red plaster. It is composed of two and a half parts of minium, and one part and a-half of cinnibar to twenty-six parts of diachylon plaster. It is much less irritating than the vigo plaster. Finally, when deep ulcerations are produced, they are to be dressed dry with iodoform or iodol. A few hours before the next operation it is well to cease the use of the plaster to avoid too great irritation of the diseased parts which would render the operation painful and difficult if not impossible. It is equally necessary that the surfaces to be scarified should be completely freed from particles of plaster which adhere when it is removed—and for this it is only necessary to rub the surface with some simple erate or fresh butter.

LUPUS OF THE
MUCUOUS
MEMBRANES.

Scarification also gives good results in the treatment of lupus of the mucuous mem-

branes. That which has appeared to be the most surely and the most rapidly benefited by this method is lupus of the conjunctiva. When the neoplasm has invaded the gums, the vault of the palate or the soft palate, scarification may be employed with success, but it appears to give less prompt results than the electro-cautery. As to

lupus of the nostrils, it is here especially justifiable to employ scraping with the sharp curette, followed by cauterization, either with the nitrate of silver or the prechloride of iron, and finally washing with weak solutions of corrosive sublimate or boric acid, applying insufflations of powdered iodol and an ointment composed of the yellow oxide of mercury, yellow precipitate, each one part, and vaseline, ten parts.

Results obtained.—As Dr. Vidal has demonstrated during the past eight years, the advantage of this method is that in skillful hands it produces an almost perfect cicatrix, while in scraping, the use of the thermo-cautery and electro-cauterization, and especially with caustics, depressions, loss of substance, cicatricial bands, irreparable deformities are produced, while, with scarification when a cure is obtained, the region which has been attacked can scarcely be distinguished. The skin regains its normal suppleness, its form, and often its color. As long as a bright redness persists, toward the borders of the neoplasm, we must fear that the cure is only apparent. This symptom usually shows that the morbid process is not at an end, and we must continue the scarifications methodically until it has disappeared. The patients should present themselves for examination every two or three months, to keep under observation and prevent recurrences by having all small tubercles which might appear in the cicatrix destroyed at once.

The period of observation should last at least a year. The number of sittings necessary for a cure of a tuberculous lupus is very variable according to the patient, and the extent and nature of the lupus; some get well in a few weeks, others resist treatment indefinitely. Of all forms of lupus it is probably the most severe, namely, lupus vorax, which is the most readily cured by this method.

We must not, however, believe that Dr. Vidal always employs this procedure systematically, and to the exclusion of all others in

the treatment of tuberculous lupus. When the affection persists for a long time and there is no great tendency on the part of the patient towards the formation of keloidal scars, he at times, also, resorts to the actual cautery. I have shown, in a memorial published in 1886, that in using it with prudence and alternating with scarifications in rebellious cases, we can considerably decrease the time of treatment in this way.

In my next letter I shall speak of lupus erythematosus, erythematous acneiform lupus, and the other affections which may be treated by this method.

CHLOROFORM

THE BEST ANÆSTHETIC.

BY

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PRACTICE, Feb. 15.

Surgeons in all parts of the world have been much exercised of late over this most important subject, and a question of greater interest to suffering humanity it would be difficult to frame. For the past forty years anæsthetics have been in use, and millions w

ve been operated upon under their benign influences attest the inestimable value of this greatest of modern discoveries. Ether, although the first introduced, had made but little headway, when Simpson, in 1847, gave chloroform to the world. It met with immediate acceptance from professional men; and within a few months there was scarcely a surgeon of note in either hemisphere who had not used it and extolled it in the strongest expressions of his mother tongue.

From its universal adoption the inhalation of chloroform became the precursor of every serious operation. Those who enjoyed with it quiet sleep, and who without it would have experienced intense suffering, were soon numbered by hundreds of thousands. Ever recurring wars, with thous-

ands of wounded, gave surgeons an opportunity of using chloroform on a very large scale, which only added to the well-deserved reputation which it seemed to have enjoyed from its very introduction.

There is not but one single alloy in this general jubilee. Now and then some patient would die when chloroform had been inhaled. In former times such fatal accidents on the operating table were common enough to every surgeon of large experience; now, since the introduction of chloroform, there was an uncomfortable suspicion that in some way the inhalation was to be blamed for these fatalities; for under its life-saving influences nobody ought to die. With this impression once excited, each accident as reported and copied from journal to journal and from newspaper to newspaper frightened the public, and slowly undermined that confidence which surgeons had previously had in this anæsthetic. A strong desire was expressed to discover some kindred agent which would establish general anæsthesia without danger.

For many years the ether anæsthetic had been abandoned, and was nearly forgotten, chloroform having superseded it and driven it out of use. It was now remembered that so far very few deaths had been attributed to ether, and hence this older anæsthetic began to take the place that chloroform had so completely occupied. At this present time ether is nearly as much used as chloroform, its votaries being irregularly distributed. With many, chloroform holds its original undisputed sway; while with others sulphuric ether is exclusively used. Now that ether is more extensively employed, deaths under its administration are more frequently reported, and hence the question which is forcing itself on the profession for solution, viz: which of these two anæsthetics is the safer, and by what safeguards can their administration be surrounded?

The many substances for anæsthetic purposes which have been brought to the notice of surgeons in the last few years have

had but a very ephemeral existence; and with the exception of nitrous oxide gas, which dentists find so useful for their momentary operation in teeth extracting, and the bromide of ethyl, a powerful but evanescent anæsthetic, very valuable only for operations of very short duration, all have passed from general use. Chloroform and ether still remain as giants combatting for superiority.

That death occasionally occurs during the administration of both ether and chloroform, there can be no question. That deaths have occurred from the inhalation of either of these potent agents, even when the purest drug had been obtained, and the inhalation most carefully administered, must be equally admitted. That deaths are numerous when either of these fluids are carefully administered no one well informed believes. That deaths are often wrongfully attributed to both of these anæsthetics, every one must acknowledge. It is found very convenient to put the shortcomings of surgeons upon these agents. In common with the mal-administration of anæsthetics, the dangers incident to the extreme protraction of operations so exhausting to patients, clumsiness in the surgical manipulation, with consequent excessive loss of blood, temerity in undertaking operations, in which, from their magnitude, no reasonable success should have been expected, are disowned in the face of the inhalation, to which death is often conveniently attributed, even when the patient dies, many hours or days after the operation, from causes which would have been properly named prior to the discovery of anæsthetics.

I have seen anæsthetics administered carefully and carelessly, boldly and timidly, by those well instructed in their use, and by others totally ignorant of their action. I have seen instances during the inhalation, in which the most serious accidents would have happened had not steps been promptly taken to prevent them. I propose in brief to analyze these cases, amounting to many

thousands, which have come under my own personal observation, and from their careful consideration deduct rules for the guidance of the surgeon in the administration of anæsthetics, by following which, safety and success in the use of these most valuable agents can be secured.

For successful inhalation, much will depend upon the mode of offering the anæsthetic to the patient. The method I adopt for administering anæsthetics is simple, and is the one in general use. Should I have control of the patient for twenty-four hours before I operate, I always insist upon a fast for at least six hours prior to the inhalation. This rule, however, I am compelled to break daily. I use anæsthetics extensively in my office practice to aid in diagnosis in the ophthalmic diseases of irritable and fretful children, as well as in operations at the Eye Clinic, which, being held at one o'clock in the day, immediately after the midday meal of the working classes, often compels me to administer the anæsthetic a very short time after a full meal has been taken. Beyond the vomiting, which is very annoying to the operator, and which delays the speedy completion of the surgical procedure, I have seen no bad result from it. The precaution of loosening the clothing, especially that encircling the throat, chest and abdomen, so as to facilitate respiration, I never omit. I also make it a rule to inspect the mouth, and always remove false teeth. These may become displaced during the administration of the anæsthetic and make serious complications.

With adults a drink of whiskey, in my practice, always precedes the inhalation. Young persons bear anæsthetics so uniformly well that, in my experience, no such precaution is needed with them. A hypodermic injection of morphia just before the inhalation facilitates the administration of the anæsthetic, and also aids in sustaining the action of the heart. It also extends sleep when the narcotic action of the anæsthetic

has passed off, and mitigates the after pains of the operation, a very desirable effect.

A towel many times folded and formed into a hollow cone—with *open top* if chloroform is used, and *closed top* if ether is to be administered—makes the very best inhaler that I am acquainted with, and should be the one in universal use. It may not be so economical in the consumption of chloroform, as are many of the special inhalers, but it does not become the receptacle of the throat excretions of successive patients, and is in this respect much more cleanly and desirable. A thick towel can always be obtained, can be had clean, and will permit the more or less ready passage of air (as folded for the special anæsthetic to be used), without which neither chloroform nor ether can be administered with safety. In my operating case I carry several long, stout pins, known as shawl pins, for the purpose of pinning together the ends of the folded towel in cone form. These simple instruments I find equally valuable with any in the operating case. There are innumerable special appliances for administering anæsthetics—some made of metal, others of rubber; all of them are more or less bad and unsatisfactory when compared with the home-made towel cone.

In using ether the cone, with closed apex, having its cavity well sprinkled with the fluid, is placed directly over the nose and mouth of the patient and held firmly upon the face, notwithstanding the struggles and cries for breath, until the patient becomes prostrate and insensible, or until more ether is needed. When the patient is struggling to escape from what he conceives to be an attempt to strangle him, be careful to keep only the base of the folded towel pressed upon the face, leaving the mouth and nose free in the ample cavity of the cone, which pressure has not effaced or in any way interfered with as an air chamber. Should the cone be flattened against the patient's nose, very ugly symptoms of suffocation

may be brought about, not by the ether, but by the towel.

With chloroform, such a procedure as the above described mode of administering ether would properly be called a very dangerous mal-administration, and deserving of severe censure. Chloroform, well diluted with air, must be *slowly* inhaled, so as not to cause any suffocating feelings whatsoever. Into the cone, *with apex open*, is poured a small quantity of chloroform. The towel is then held at some distance from the nose, and is slowly approached as the effects of the drug are experienced, until the base of the cone reaches the face about the time when the patient is half anæsthetized. From time to time an additional amount of chloroform is sprinkled into the cone to replace that lost by evaporation. The upper end of the cone is always carefully kept open for the free admission of air. By commencing the inhalation with a very dilute chloroform vapor no discomfort of suffocation is experienced by the patient, and sleep soon begins to mark the approach of anæsthesia.

During the inhalation I watch the face more than I do the pulse, although the face, the chest movements and the pulse are all kept under constant observation. The color and expression of the face will always be a sure index of the working of the heart and lungs. As soon as sleep begins to show itself, I take away the pillow from the head of the patient, so as to insure a horizontal decubitus, which would often be seriously objected to by the patient during the sensible condition. Should symptoms of vomiting show themselves, the patient is immediately turned over on the side until emesis is accomplished. The anæsthetic is continued notwithstanding the retching. I find the continued inhalation of the anæsthetic the best method for checking that involuntary contraction of the abdominal muscles which accompanies vomiting.

I continue to administer the anæsthetic

until I find the reflex action suspended, as expressed by absence of contraction in the lids when the eyeball is touched. Then I consider the patient ready for operation, and in a safe condition to have it successfully performed. The patient lies in deep sleep, undisturbed by any peripheral irritation. The heart and lungs continue to work harmoniously through their own nerve centres, uninterfered with by reflex agencies, transmitted as they would otherwise be from the peripheral nerves through the cerebro-spinal axis to those special nerve centres. While the patient escapes all pain, the surgeon avoids all the inconvenience of movements, the patient lies in motionless sleep, undisturbed by the surgeon's knife, all the facilities essential to life being in full operation. *This is the condition which I recognize as full and safe anæsthesia.* Less than this would permit dangerous and even fatal reflex complications. More than this would be extreme narcotism, which, by suspending the influence of the nerve centres, would stop the working of the organs—the heart and lungs—which these centres, when undisturbed, excite. Fortunately it would require much more of the anæsthetic to bring about this suspension of the vital function—a degree of narcotism which should justly be called an overdose.

Between *this excessive narcotism and the safe and thorough anæsthesia there is a broad gulf, which only the rash or ignorant are likely to bridge.* When the patient is fully anæsthetized, the inhalation is stopped, to be renewed from time to time if the operation be tedious and signs of returning consciousness make themselves apparent.

Anæsthetics are among the most powerful drugs of the Pharmacopœia, and must always be administered with caution. “To bring a living being to that borderland in which life in many respects so stimulates death should at no time be a fool's occupation.” It is a condition which the strongest hearted patient can not face without some uneasiness,

and many submit to with great alarm. The administration of anæsthetics should therefore be only entrusted to skilled hands, who, knowing what they have to do, will give all of their attention to the serious matter which should absorb them. Hence it is better for a surgeon to have as an administrator of anæsthetics, a physician who takes no interest in surgical operations, and who will not have his attention for even a moment diverted from the face of his patient.

From my own experience and observation, I can readily see how there can be at least *seven recognized causes for death* during the administration of anæsthetics; even when pure drugs are used, the patient being in recumbent posture, with loose clothing, and in a proper position for its inhalation.

The inhalation of a general anæsthetic in the sitting posture is dangerous, and should never be undertaken.

May not the perfect safety with which chloroform is used in obstetrical practice depend much upon the empty condition of the stomach, the loose clothing, *and the horizontal decubitus*, which are considered the best preparation for safe inhalation, accompanied, as it always is in obstetrical cases, with no fear of, but a longing for, the anæsthetic to escape the pains of labor?

In the first place, I can understand how a cloth saturated with chloroform, and covering up the face of a patient so as to exclude air, may necessitate the inhalation of so saturated an atmosphere as to cause excessive irritation and spasmodic closure of the air-passages. This will act injuriously upon the respiration and circulation. Should a fatal mistake occur under this crowding process, a faulty administration, we would not call this a death from chloroform under careful use, but its careless abuse. The result could not occur if common precautions are taken, such precautions as every physician is expected to use who administers any of the efficient drugs of the materia medica. Should a physician, intending to administer hypodermically a few minims of Magen-

die's Solution from a full syringe, carelessly inject the entire contents under the skin, no one would attribute the blame to the morphia, but to the hand that worked the syringe. In this case life is sacrificed by carelessness in the use of a remedy known to be potent, and therefore one to be used with caution.

A second cause of death may readily occur with the early administration of both ether and chloroform. In many cases the local action of the inhaled vapor so irritates the throat as to cause contraction of the tongue muscles and a closure of the laryngeal opening by the close approach of the arytenoid cartilages and the overlapping of the epiglottis. This condition is evinced by stertorous breathing, change of countenance, congestion of face, impeded thoracic movements, and vain attempts at thoracic expansion. The patient is threatened with asphyxia by an involuntary but successful effort at partially swallowing his tongue. Should he be allowed to remain in this condition death will as surely take place as when one is seized by the throat and is fatally strangled. As soon as this noisy breathing commences, seize the chin of the patient and draw it forcibly upwards. The object of this manipulation is to efface the indentation of the neck by drawing the hyoid bone forward, and with it the root of the tongue. When a straight line is made of the neck from the sternum to the chin, the whole front wall of the throat is pulled away from its posterior vertebral wall, giving the greatest amplitude to the laryngeal opening and making a straight passage for the inspired air from the nose through the pharynx into the lungs. As the chin is forcibly raised a sonorous respiration is immediately heard, the noisy stertorous breathing at once stops, respiration becomes easy, and the congestion disappears from the face.

Pulling the root of the tongue forward by stretching forcibly the sterno hyoid and geno hyoid muscles, is much more efficient in opening the laryngeal passage than the

plan recommended by some surgeons of pulling out the tongue by forceps. At this stage of anæsthesia, before relaxation is brought about, it is not easy to open the mouth. The jaw muscles are firmly contracted, requiring force to separate the row of teeth. The fingers cannot be gotten into the mouth, and if they could the tongue is too slippery to be drawn out by them. A forceps of some kind must be used. A proper ring forceps for drawing out the tongue, an instrument that will hold by pressure and not by sticking into the organ, is seldom found in the operating case of surgeons. In the pressing emergency, any forceps at hand is made available. Either a dressing forceps, or perhaps the toothed forceps used for the ligation of vessels, is thrust into the mouth. The tongue is seized, and as it resists the drawing out its substance is torn by the teeth of the slipping forceps. For days after the operation a swollen, painful tongue annoys the patient. Pulling up the chin needs no apparatus. It is the most convenient, as it is the most efficient means of procuring immediate relief. It is only necessary to have the knowledge and apply it. Should the drawing forward of the tongue be omitted when this ominous congestion of the face occurs, we would have another glaring instance of death from the mal-administration of the anæsthetic. A surgeon who is not prepared to protect his patient from this accident, while inhaling the anæsthetic, would have as good reasons for escaping censure as he who, after an amputation, neglects to secure the arteries, and hence allows the patient to die from hemorrhage.

A third cause of danger in the inhalation of anæsthetics resides in the inexperience of the administrator or in his inattention. I have already said that the physician who administers an anæsthetic has full occupation in the part assigned to him, and should not permit his attention to be diverted to the surgical work performed by another, for which he is preparing the patient. I

have seen instances in which the administrator of the anæsthetic, often a student of medicine, in his eagerness to follow the several steps of the operation on some distant part of the body, had become so oblivious to his responsible trust as to allow the thickly folded cloth to compress firmly both nose and mouth of the patient, who, with asphyxia imminent, was too insensible and powerless to push away the obstacle and escape the threatened suffocation. Had the patient a feather pillow pressed over the face he could not be more surely suffocated than by this thickly folded towel. Many a time, in doing general surgical work, have I pulled the chloroformed cloth from the face of the patient to the immediate relief of the respiration. Had the careless administrator been permitted to smother his patient, we would have had a death announced from chloroform, while a towel which had never known chloroform, if applied in a similar way, would have done equally efficient work. Another clear case of careless administration. In ophthalmic surgery, to which my work is now exclusively confined, this accident cannot occur, as the face is constantly under my own observation.

Still a *fourth cause* of death will be wrongly attributed to the anæsthetic should it occur during the act of vomiting. A watchful administrator of an anæsthetic can always foresee the coming vomiting, and prepare for it by turning the patient over *before* the contents of the stomach escapes. In the hands of careless operators I have seen the contents of the stomach come up with a gush, a perfect water-spout of partly digested food, then falling back over the face, making a horrible mess, and threatening the breathing. If the patient be allowed to remain upon his back during emesis, and be not rolled over upon his side or face during the sudden inspiration which immediately follows, some of the contents of the stomach might pass downwards from the pharynx into the trachea and cause death by suffocation. Autopsies are not often thoroughly made

after supposed death attributed to an anæsthetics. Usually the brain, the heart and the kidneys are examined, and possibly the stomach, liver and bladder, and all are found healthy, but the heart, and especially the larynx, have not been inspected, and therefore the cause of death is not discovered. In a reported death during chloroform inhalation, in which a patient suddenly expired immediately after the act of vomiting, the larynx and trachea were found packed with food ejected from the stomach. The patient did not die from chloroform poisoning, but was suffocated. In another recent case at the University College Hospital, London, of death following vomiting under ether during an operation for strangulated hernia, the autopsy exhibited stercoraceous matter in the trachea and right bronchus. Again, a case of death at the hands of the careless administrator in his bad manipulation of the patient, and certainly not from the anæsthetic.

The fifth cause of death from both chloroform and ether, probably the most common of all, has been more active of late years, being rendered so by the unsettling of the former confidence which surgeons have had in the safety of anæsthetics. In their present timidity surgeons do not now push the inhalation to the degree of suspending the functions of such parts of the cerebro-spinal system as preside over the emotional, sensational, motor and reflex acts; *the only condition recognized as one of perfect safety in chloroform and ether anæsthesia*. I refer to that condition in which peripheral irritation can no longer be transmitted through the cord to the brain, and then back, by the vagus and pneumogastric nerves, to the cardiac ganglia. Any condition short of this stage of temporary suspension of reflex agencies leaves the heart exposed to those serious inroads from peripheral irritation through which its movements may be suddenly and permanently arrested. Such fatal results are identical with instances of nervous shock, so similiar to operators in

former times, before the discovery of anæsthetics, and then deemed a sufficient explanation of death under the circumstances. In this way can be satisfactorily classified the many deaths under anæsthetics for trivial operations, as tooth-drawing, opening of abscesses, etc.; when only enough of the agent was inhaled in the sitting posture to partially stupefy, but not to protect against reflex accidents from emotional or peripheral excitement. When a patient who has been under an anæsthetic during a painful operation, utters a scream and then stops breathing, although the death may be called one of fatal anæsthetic narcosis, the true state of the case is *not enough of the anæsthetic* to protect the heart from reflex influence. Many such cases are reported under the heading, "Death from Chloroform." The heading should be death for want of more chloroform.

In this class are placed those many fatal cases during the more serious operations, in which the timidity or anxiety of the surgeon, with unsettled confidence in the article he is using, induces him to *arrest the inhalation before the period of safety has been reached*. He commences the cutting operation with the vital organs all exposed to injurious reflex peripheral irritation and under the cloak of the anæsthetic, without its protection, invites disaster. Hence it is that an operator, who has once been frightened during an insufficient administration of anæsthetics, continues to have accidents which do not occur to others who, never having seen trouble, administer the drug boldly. Timidity here must be classified with ignorance, both being dangerous negative qualifications for successful surgery. When deaths occur under these circumstances, the fatal result is not to be attributed to the anæsthetic, but, on the contrary, *to the want of a sufficient amount of it*; clearly a defective administration, induced by unwarrantable and unworthy fright on the part of the operator.

Under this heading I would also class the deaths said to be occasioned by heart dis-

eases under the inhalation of chloroform. Richardson, of London, after a critical examination of the various diseased conditions of the body, said to be hostile to the administration of chloroform, and especially after maturely considering the many varieties of heart disease, including valvular growth, vascular contractions, cardiac hypertrophies, stenosis of heart orifices, and in fact the entire list of heart troubles, sums up his experimental observations with the following remarks: "On the whole, the only diseased condition which I could give as a warning to practitioners from exceptional danger in the administration of chloroform is the diagnostic of a dilated and weak right heart." And then states that in one such case he had forewarned the surgeon, who then gave chloroform and had a fatal result. But what guarantee have we that the patient with such a heart would not have succumbed to the operation itself without having inhaled an anæsthetic? These heart conditions are so prone to syncope that anæsthetics are needed during painful operations to prevent the fatal emotional shock so prone to arise from reflex irritation. In such cases we recognize the necessity for a cardiac stimulus, whisky, which will prevent the fatal depression.

Diseased conditions of the heart, regardless of kind, may make this important organ peculiarly susceptible to syncope when reflex action has full sway; hence we find violent emotional excitement a fruitful cause for mortality in the subjects of heart disease. Many such persons having to undergo painful surgical operations in former times, before the introduction of chloroform, suddenly collapsed with the first incision; and they *still die as of old when they are not properly protected by complete anæsthesia*. Should chloroform be freely given to patients with heart disease, regardless of kind, who must submit to painful operations for the cure of some surgical affection, *by its liberal use they are put into a condition of safety against all emotional and reflex annoyances*, without which they could not escape trouble.

I look upon chloroform as the strong bridge which will conduct patients suffering from serious heart disease safely over serious operations.

As a surgeon in large ophthalmic practice, I frequently am compelled to perform the most delicate and painful operations upon the eyes of timid patients suffering from heart disease in its various forms. Cataracts occurring usually at an advanced age, most frequently between 60 and 85 years of age, are often associated with organic diseases of the heart in patients enfeebled by senility. Prior to the introduction of cocaine, that wonderful local anæsthetic for eye-work, I never refused to give such patients chloroform; on the contrary, I urged its use. The only difference I made in such cases over other patients was by exercising even more care in establishing the safe stage of complete anæsthesia through the liberal use of the drug.

Kidney diseases are referred to as a very dangerous element to the anæsthetized with ether, and many operators examine with great care the urine of patients prior to administering sulphuric ether as an anæsthetic. Bronchial troubles are also considered antagonistic to the safe administration of ether, not directly but indirectly. In such cases, after the operation has been completed and the resuscitated patient has been put to bed, a fatal pneumonia has developed, which follows too often the administration of ether to be considered a mere coincidence. This fatal pneumonia has not been noticed as a sequel of chloroform anæsthesia. Using chloroform exclusively, I have never thought it necessary to examine the urine nor the chest for lung diseases, and have had no occasion to regret my seeming neglect in this connection. From the standpoint of my own personal experience I know of no organic lesion which contra-indicates the careful and thorough administration of chloroform.

The *sixth cause* of death during the administration of ether or chloroform is from excessive administration. No one can doubt

for a moment that chloroform and ether possess toxic action, and that in common with all other active agents in medicine, the danger is dependent upon the size of the dose used; also that the dose of an anæsthetic can be made large enough to kill by enfeebling and finally paralyzing the nerve centres from which the heart and lungs draw their inspiration. This class of remedies are clearly cumulative, and when enough has been inhaled to cause the suspension of voluntary motion, sensation and reflex action if their administration be continued, instead of being suspended, an amount can be concentrated in the calculation quite sufficient to stop respiration and the heart's action.

As I have said before, there is usually a broad gulf between that degree of anæsthesia which only suspends so much of cerebral action as still allows full play to the vital organs—a perfectly safe condition for surgical operations—and that fatal overdose of the anæsthetic from which there is a suppression of the cardiac and respiratory centres for innervation. Surgeons often employ ignorant assistants to administer the anæsthetic, who conceive it to be their duty to keep the saturated cloth to the nose of the patient, and they know no stopping point. They are told to give the ether, and they do it, showing neither judgment nor discretion in the administration. Unless watched by the surgeon, whose attention should be concentrated elsewhere, they go on applying the vapor, notwithstanding complete narcotism has been secured. Fortunately, the elimination of the lethal vapor from the blood through the lungs is so rapid that by removing the towel a very few expirations will reduce the amount in the system to a safe standard and dissipate the threatened danger.

Cases will occur now and then, fortunately at long intervals, in which, under an anæsthetic, there is a sudden weakening of the heart's action, accompanied, by a death-like pallor of the face, and a very feeble respira-

tion. I have had cases in my personal experience, in which, under chloroform, breathing suddenly stopped with the disappearance of the pulse at the wrist. The patient looked like a corpse and was apparently dead. From even this very alarming condition the vital function can be reestablished by promptly inverting the patient, hanging him up by the feet with head down, so as to allow blood to gravitate toward the anæmic brain.

When a piece of the skull of an animal is removed so as to expose the brain and chloroform is then administered, the vessel seems to shrink in volume, the surface bleaching as narcotism advances. These experiments show that chloroform produces an anæmic condition of the brain, and that the various phenomena observed during the administration of an anæsthetic are in a measure caused by the diminished blood supply to the various nerve centres. Nelaton's experiments with rats gave to the surgical world that admirable method for restoring strength to the enfeebled heart by hanging the patient up by the feet. He found that when rats were thoroughly chloroformed, if immediately hung up by the tail they would revive; if left lying upon the table they died. It is a mooted point whether the resuscitation is brought about by an additional supply of blood to the anæmic brain alone, or by the emptying of the blood from the great reservoir, the liver, through the vena cava into the cavities of the heart, stimulating them into renewed activity. Most likely both of these influences work. Certain it is that when the lungs and heart fail under anæsthesia, the immediate suspension of the patient with head down will reestablish lung and heart action, provided no time has been lost between the arrest of breathing and the inversion of the patient.

When, during the administration of an anæsthetic, breathing stops, the great danger to the patient is in the recumbent posture. The chief reasons why remedies used for resuscitation fail, is because they are applied to the inanimate body when lying flat upon

the bed or table. Water splashing, spanking the surface to excite reflex action, hypodermics of whisky, artificial respiration, electricity, all of them, unfortunately, go for nothing, as the various reports of death during the use of anæsthetics show.

In my own cases of suspended animation, four in number, my patients looked dead, and would have died had I not promptly and without one instant's delay hung them up by the feet. In one case, when I laid him down too soon the breathing again stopped, necessitating the immediate resumption of the inversion, and this was repeated three times before the respiration became permanently reestablished. In one case, when I laid him down too soon the breathing again stopped, necessitating the immediate resuming of the inversion. In each of the four cases I depended upon inversion alone to bring back the pulse. After a few minutes of suspension I was gratified in seeing respiration and heart's action reestablished, and my patients were saved. They would have been among the so-called deaths from chloroform had I lost precious time in making the usual applications of cold water to the face, hypodermics of whisky, or in practicing artificial respiration. Do all of these things, if you will, but, in my opinion, always hang up the patient first. When under an anæsthetic the respiration suddenly stops and the pulse disappears, the patient is rapidly dying, but is not yet dead. Hang him up immediately with head down and he will not die. Leave him supine while you apply the remedies recommended in books on surgery, after a very short interval death, the end of mundane life, will have taken place. Time now bestowed in trying to bring back the dead to life is wasted energy. How often do we read of the herculean efforts of the doctors using every known remedy (except the efficient one of inversion on the patient), and keeping up the work for hours, but all to no purpose. When, through an overdose of chloroform or ether, the vital functions are suspended and the patient dies, the death should

be put to the proper cause—want of knowledge or lack of activity on the part of the surgeon in applying the proper remedy; another clear case of mal-administration.

The *seventh, the only legitimate and rarest of all causes of death from anæsthetics*, now faces us. It is that unknown condition called idiosyncrasy, in which anæsthetics show themselves poisons of extreme activity, and at some stage of the administration kill promptly. Patients who carry about with them this innate fatality exhibit it by no recognized signs. When such persons die from the toxic inhalation, the autopsy reveals absolutely nothing to indicate the destructive effects of the poison.

The effects of anæsthetics depend on the immediate influences exerted by the drug upon the sensitive elements of the nerve centres, in virtue of which their properties are temporarily suspended. In cases of idiosyncrasy, these functions, so essential to life, become permanently suppressed, and yet, with the death of the individual, the changes in these nerve elements are of such a nature that so far they have altogether escaped detection by pathological investigators.

We call the practice of medicine empirical, because every dose of medicine we administer to a patient for the first time is more or less an experiment. We cannot in advance say that because a drug is expected to act in a previously established way it will do so in the case before us. The every-day experience of physicians teaches them not to be surprised if now and then they should obtain from drugs diametrically opposite results from those looked for, and very often intensity of action not at all commensurate with the very small dose administered. I have known opium to produce intense pain; it is the common remedy to allay it. I have known Dover's powders to purge violently; it is a common remedy for checking diarrhoea, a single grain of quinine to produce desquamation of the cuticle, a grain of the iodide of potassium to bring on a most dis-

tressing coryza, and a grain of calomel to produce the most profuse ptyalism. On one occasion, in an old lady under my care, one single drop of tincture of aconite brought on prostration that nearly proved fatal. How often a single moderate dose of the narcotics in constant use has put the patient under the sod, the grave alone can tell. To the world the death is always attributed to the disease for which the dose has often been judiciously, but now fatally prescribed. The administration of the remedy was based upon the great good that it had accomplished in controlling these very symptoms in thousands of cases. The idiosyncrasy of the individual in these special instances was the immediate cause of the fatal issue; a condition which could not have been foreseen, and therefore no precautions could have guarded the physician against it. In these cases, which cannot be very rare, from the variety and number of potent drugs used by practitioners, the fatality following the dose administered is not often recognized, even by the medical attendant. The patient died after taking the remedy when the symptoms of the disease had not indicated so serious or so sudden a result. The reason why the fatal issue came about, most physicians do not wish to consider.

From the exclusive use of any one potent remedy the idiosyncrasy must be rare, so that in taking one, say opium, a powerful drug most extensively used by every physician, and applicable to most of the diseases to which the human subject is liable, peculiarities in constitution, exhibiting dangerous symptoms from comparatively small doses, are only now and then met with. When we contrast as to frequency cases requiring serious surgical operations, against the many little and great disturbances of the various organs of the living economy brought to the notice of the physician, and requiring the use of opium, we find the surgical cases in the ratio of scarcely one to a thousand. Now take such a remedy as chloroform, only used by surgeons in these serious surgi-

cal cases, and hunt up idiosyncracies for this drug. Their occurrence must be so very rare that a surgeon of very large experience is not likely to see more than one fatal case in a long life devoted to surgical practice; and a great many surgeons of very large experience have never met with one. Syme, whose surgical career in Edinburgh is known to every one in the profession, was so uniformly successful with anæsthetics, never having lost a patient from inhalation, that he adopted this axiom, "Show me a case for operation, and I will show you a case for chloroform." At the Edinburgh Infirmary, during a period of twenty-eight years from the introduction of chloroform into surgical practice, only two deaths have been attributed to chloroform, which, according to Ker, is one death in 36,500 administrations. Grant, in his admirable Treatise on Surgery, says: "I have seen chloroform given in some thousand of cases during upward of twenty years, both in hospital and private practice, without a single death, or even an approach to a fatal termination." Elser, of Strasburg, had used chloroform 16,000 times, and had never seen a fatal case. Kidd, of London, had seen it administered upwards of 10,000 times, and had seen no fatal case, either in his own practice or that of his friends. Dr. Bardeleben, of Berlin, had participated in its administration to over 30,000 patients, before meeting with a death from chloroform. The French surgeons in the Crimea reported 30,000 cases of chloroform administered, and not one fatal issue. In the English army in the Crimea, chloroform was administered 12,000 times with one single death reported as attributed to it. In the Confederate service chloroform was exclusively used in a great many thousand operations without a death, as far as I am aware of, or have been able to ascertain after diligent inquiry among leading surgeons of the army. Surgeon McGuire, of Jackson's corps, reported 18,000 administrations without one death. Richardson had seen it used in the London hospitals 15,000 times before

he met with the first fatal case. Billoth, of Vienna, had administered chloroform 12,500 times before he met with his first accident. Clover has recorded 3,000 administrations without a single death. Erichsen has only witnessed one single death under chloroform in twenty-five years at University Hospital. In the Medical and Surgical History of the Rebellion, published in 1883, under the heading, Anæsthetics, mention is made that in the Federal army chloroform was almost exclusively used in field operations. "The returns indicate that it was administered in no less than 80,000 cases. In thirty-seven cases fatal results had been ascribed to its use," a proportion of one death in 2,200 administrations. The thirty-seven cases in which a fatal issue followed are given in detail, with the following comment: "Considering the great number of cases in which chloroform was applied, principally during and after the exciting circumstances of a battle, when expedition was a matter of necessity, it is remarkable that no more cases of death from this agent has been recorded. With what justice the fatal issue in these cases here cited are chargeable to the anæsthetic, the reader must judge for himself."

To the testimony above I will add my own individual experience. I have been practising surgery thirty-five years, and have used chloroform largely during that entire period in private and hospital practice, in the army as well as in civil life, and have administered it to the extent of fully 10,000 cases from chloroform, and fully 3,000 anæsthesias from the bromide of ethyl, fully 13,000 cases in all, and without a single death. For some years I have administered it on an average of at least once every day. I have given it to the very young and to the very old; to the very strong as well as to the very weak; to the healthy as well as to the extremely diseased, regardless of the organ in which the trouble may be located. I have seen patients thoroughly anæsthetized by a half drachm of chloroform, and I have seen a pound bottle wasted upon a sailor in keep-

ing up full narcotism for a long period, and I have had occasion to keep up the anæsthesia as long as three hours at a time. I have accepted Syme's axiom, and given chloroform to every one, regardless of visceral complications, who have applied to me for a serious surgical operation, and I have yet to see the first death, either in my own practice or that of my friends. Can any stronger proof of the excessive rarity of the fatal idiosyncrasy in chloroform be needed?

Omitting army statistics as more or less unreliable, especially when taking into consideration the conditions of excitement, confusion, hurry, the carelessness necessarily pertaining to such times and circumstances, if we take only the authentic reports of well-known surgeons in civil practice, surrounded by those facilities for a careful and thorough administration, which are so readily secured in modern hospitals and in large cities, we can obtain a very fair estimate of what ought to befall a careful surgeon who uses chloroform.

These are called rare instances of success, and that the experience of these well-known surgeons should not be accepted as the true percentage of chloroform fatalities. Grant it. Still the truthfulness of these hospital reports and individual experience, as given above, are not questioned. What one surgeon has accomplished, throughout a long life of active practice, another should surely be able to duplicate; and if any one surgeon has given chloroform 30,000 times without a fatal issue, this should become the standard for its administration.

With ether, I believe that deaths during its full and careful administration are equally rare; and that in America, where it was discovered and has been most used, especially by the Boston, New York and Philadelphia surgeons (for its administration seems to be chiefly confined to Northern cities), we may find surgeons like those above mentioned who have records of thousands of cases without a single fatal issue. And yet, in proof that neither anæsthetic is absolutely

safe, deaths, however rare they may be, do sometimes occur during the administration of both ether and chloroform, even when the purest article has been used and every care bestowed in the inhalation.

That accidents come more frequently to some surgeons than to others is a matter of every-day observation. No one attributes accidents to his own want of care or want of knowledge, and yet a well-informed observer can sometimes readily trace the causes of trouble in the hands of others. We see this constantly in the detailed accounts of the published reports of deaths attributed to anæsthetics. One surgeon, with a moderate practice, has lost by death two or more patients to whom he had administered anæsthetic; another surgeon, in large practice, has never lost a patient, although giving chloroform daily at hospital clinics. What should be the inference?

Dr. J. B. Roberts, of Philadelphia, in a paper on ether deaths, published in the *Philadelphia Medical Times*, says: "It has been my fortune on four occasions to witness the occurrence of death during or immediately after the production of anæsthesia. In three of these instances sulphuric ether was employed, and in the other the bromide of ethyl." On numerous other occasions I have seen patients almost die from the effects of chloroform or other anæsthetics, who were fortunately revived by well-directed treatment." Truly a frightful experience, and in a city where chloroform is denounced. I know of no one who has ever seen as many deaths from chloroform. I know a physician who, in his early professional life, administered chloroform to a patient and the patient died. His alarm was so great at the result of this administration that he has never given chloroform since; therefore his mortality from chloroform remains 100 per cent. He was one of the very unfortunate.

Some surgeons seems to have been unlucky enough to have had a great deal more trouble with anæsthetics than should have fallen to the share of one administrator. I,

for one, do not believe in lucky and unlucky surgeons. I believe, with Napoleon, that luck usually accompanies the best organized battalions.

Against the fatality of idiosyncrasies we can hardly guard, and yet something even here might be done. Three or four times in my own experience I have had cases in which I at the time thought that the anæsthetic which I was administering was badly borne. Once while giving chloroform I noticed a sudden and unusual pallor. I stopped the administration, and the patient, by breathing pure air, soon assumed a natural appearance. I resumed the chloroform with similar results. I then exchanged it for ether, and had no further appearance of these symptoms. What might have occurred had I continued the chloroform, I am unable to say, possibly nothing but the most satisfactory anæsthesia. It might have been a groundless fright, still I am willing to call it an idiosyncrasy. In a second case a young girl of seventeen, to whom I had given no stimulus, I thought that the pulse was rapidly enfeebled by chloroform inhalation, and I exchanged the anæsthetic for ether. These cases occurred some years ago. In one or two instances when administering sulphuric ether, I thought it was badly borne, causing intense congestion of the head or excessive irritation of the throat. In these cases I stopped the ether and administered chloroform, with, as I conceived, marked relief. My fears here again might have been altogether groundless, as in the chloroform cases before mentioned.

I constantly see cases which excite the most anxious solicitude on the part of the timid and inexperienced operators—a marked enfeebling of the pulse, feeble respiration, pallor of the face, and relaxation of the skin with perspiration pouring out upon the surface. Experience has taught me that this relaxed condition, which so many are terribly alarmed about, is only the precursor of vomiting, and is the signal that I must prepare the patient for

emesis. This condition, so constantly met with by the every-day administrator of chloroform, has so frightened many an inexperienced or timid operator as to make him believe that he had come within an ace of having a fatal case from inhalation on his hands.

When one uses chloroform or ether in the way as explained, he might confidently expect no trouble. Should he believe that chloroform always weakens the heart's action, in anticipation he puts the best of cardiac stimulants, a drink of whiskey, into the stomach of the patient, where it is ready for use if wanted, and can do no harm if it is not required. I attribute the uniform success of chloroform inhalation, in the hurry and confusion of battle-field surgery, to this invaluable combination of whiskey with chloroform, and this in the face of the fact that, as the government purchases from the lowest bidder, army supplies are never of the best, and in times of war, with heavy demands, army medical supplies are very far from being chemically pure.

Suppose, however, that from the tediousness of the operation or otherwise there should be a very marked enfeebling of the heart's action, the course to be pursued from the standpoint of my own experience is very simple. Every one has observed the suddenness with which the anæsthetic effect is diminished with the act of vomiting, with its accompanying congestion of the head. When there is no longer the anæsthetic to the nose of the patient, as every expiration is getting rid of a certain amount of chloroform vapor from the circulation the admission of fresh air would naturally suggest itself. If the respiration and heart's action be detected, however feebly, ample experience shows that fresh air and an inclined position with head downward is all that is wanted for a re-establishment of the vital functions. Death, which ought not to occur under this condition, may often with truth be attributed to the too much manipulation of the frightened attendants. For if not

scientifically applied, and very few who administer anaesthetics know how to apply electricity to excite the cardiac and respiratory functions, it will insure the killing by permanently stopping both heart and lung action.

In those most rare but truly unfortunate cases in which the heart stops beating and remains for only a very few minutes the patient is dead absolutely, and nothing that the surgeon can do will restore him to life. The surgeon, unwilling to acknowledge his utter helplessness, keeps up much doing of many things for many minutes or hours, but all to no avail. These fatal cases should be only the very rare ones of idiosyncrasy which we may hear much of, but may never see, and yet they may occur to the most careful. The majority of deaths ascribed to chloroform, properly should be attributed to mal-administration; *a fruitful source of trouble being that timidity of surgeons which will not allow them to safely anaesthetize patients, but induces them to operate before a sufficient amount of the anaesthetic is administered to protect against the dangers of reflex action.* I truly believe that a great many more cases of death under chloroform are to be attributed to the want of it more than to an overdose, which comes only next in rarity to deaths by idiosyncrasy; and that the timidity of the surgeon; and not the chloroform, swells the mortuary list.

When persons suddenly die on the street or at their homes, the coroner is ever ready with his convenient verdict of heart disease, when most frequently the heart is a perfectly healthy organ, and has been altogether innocently accused. If in any case an anaesthetic has been used and a fatal accident occurs, death is immediately ascribed to the inhalation, when in reality it is due to other causes altogether extraneous to the administration. Notwithstanding this gross error in diagnosis, the reported death has its disturbing influence upon the profession; and when frequently reproduced in the daily papers will frighten the masses.

As chloroform has been up to within a few years the anæsthetic in nearly exclusive use, in most parts of the world, very naturally a great many more deaths have been attributed to it than to the much less used ether. With its increased use, deaths from ether are now accumulating, and could rigorous accounts be obtained, it would be found that ether, in proportion to the comparably small number of inhalations, would relatively exhibit as many deaths as chloroform. Up to within a few years surgeons at large have had every confidence in chloroform, and the language is not strong enough to express their unbounded admiration. Professional confidence has been disturbed by the much talked-of toxic effect of chloroform, which has frightened the public and excited the timid in the profession until many have imbibed the infection, not knowing why, and have taken to ether, an anæsthetic which has not had the opportunity of having as many deaths attributed to its administration. I also, some years since, under the pressure of public opinion, or rather the timidity of patients who expressed a preference for it, took up ether and gave it largely. For a short time I used nothing else, but its administration proved unsatisfactory, on account of the distress occasioned by its forced inhalation in a concentrated form, its offensive odor, the large amount required, the excessive throat and buccal secretions and the irritable cough often excited. As we have all so often done with new remedies, relinquish them after a short trial to fall back to the older ones which had previously been our reliance, so I found myself soon getting back to chloroform, which I now exclusively use with all the confidence that so useful an agent ought to secure.

Believing, as I do, that both ether and chloroform can kill, when carelessly, indifferently or excessively administered—believing, also, that either of them kill when the idiosyncrasy is met with in which its usual benign effects become toxic, and that these

two remedies will do so in equal ratio to the number of times in which they are inhaled, I naturally confide in the one which experience has taught me to be equally safe, more agreeable, less nauseating, and more efficient. My acquaintance with chloroform has been of the most satisfactory kind. I have seen it administered at least ten thousand times, and I have never seen fatal trouble from it.

Since my attention has been turned to the decided advantages of chloroform over the less efficient sulphuric ether, I have often asked surgeons from a distance, with whom I may have been casually thrown, what anæsthetic they use. I find many say chloroform exclusively, from which they had never had an accident, and in which they have unbounded confidence. Others tell me that they administer ether; not that they had ever had trouble with chloroform, but that they had been made somewhat timid by reading reports of fatal cases. They, at the same time, acknowledge that they do not obtain that satisfactory anæsthesia such as they formerly secured under chloroform; and that even now, when they find that their patient is not properly influenced with the ether, they pour on the chloroform, feeling that they can look confidently forward to a speedy and thorough anæsthesia.

Believing, as I do, that ether and chloroform will not prove dangerous if a pure drug is selected and carefully administered, except in those extremely rare cases of idiosyncrasy, when both will prove toxic in like proportion, then in the comfort of the administration, both to the patient and the surgeon, ether, in my opinion, is not to be compared to chloroform as a general anæsthetic, and can never take the place of the latter. The wave of professional opinion is moving back toward a returning confidence in the safety of chloroform, which many surgeons who administer it continually have never had shaken.

There is no remedy really good in medi-

cine which is not capable of mischief. More persons are killed each year from the abuses of opium than have been attributed to chloroform from its discovery even to the present time. Deaths annually from opium in England alone is numbered by the hundreds. How many hundreds are to be added to this list occurring under the careful administration of skilled physicians, we can easily conjecture. Yet who proposes to substitute for this king of drugs any of the milder narcotics? We are ready to accept the comparatively small fatality for the immense good it accomplishes. How often during the summer do we find in the daily papers reports of healthy persons dying suddenly from the too liberal potation of ice-water, yet who would listen with any patience to the so-called philanthropist who would wage war against this universal beverage? It has been stated that more persons are killed by slipping on fragments of orange-peel in the streets of London than from the inhalation of chloroform. No one suggests the destruction of orange groves on this account. No one finds fault with the laws of gravitation because persons continue to fall down and break their legs or necks. It is unfortunate for the individual, but the great laws of Nature must ever go on, and the great designs of the Creator enjoyed with wonder and astonishment. Shall we give up the use of horses or steam because accidents happen from both? Would we have all the rivers dried up because now and then a drowned man is fished up out of them? The great discoveries are for the good of many—not for the few. You cannot avoid every danger, and at the same time enjoy every good.

With the careful administration of anæsthetics the little risk, infinitesimally small, is immensely counterbalanced by the protection from the very many dangers during operations, so well known and so often experienced when operations were performed without them. Chloroform, when judiciously used, is one of the safest active remedies of the *materia medica*, supplying nearly every good and avoiding nearly every danger.

EYE, EAR, AND THROAT.

DEVIATIONS
OF THE
SEPTUM NASI.BY
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In no branch of Surgery has there been a firmer, more substantial progress than in that of nasal surgery. In fact, it has been the last meeting of this Society that a progressive, scientific operation has been

devised for the correction of that great drawback to Rhinologists, a deformed nasal septum.

It must be acknowledged, of the great number of methods offered, their day has been indeed limited, due no doubt to complicated methods of operating and the narrowness of the space in which the operation is to be performed.

Anatomy teaches us that the cartilages of the nose are the chief support of the outer part of the organ. They occupy the triangular opening seen in front of the nasal cavity in the dried skull, and assist in forming the septum between the nasal fosse. There are usually reckoned two (2) large and three (3) small cartilages on each side, and one central piece of cartilage or cartilage of the septum. It is with this central piece of cartilage or septum nasi to which our attention is called. In the 117 dried skulls Theile examined, 73.5 per cent. were found deviated. In the majority of instances, Semeleder found the deviation towards the left, whereas, in some instances, it is a sigmoid outline. The cause of deviation of bony septum is very obscure.

At one time this deviation was thought to be of congenital origin, but Zuckerhandl's researches demonstrated the fact that, up to the seventh year the septum nasi is always straight. McKenzie says, "It may be possible that the deflection may result from the fact that ossification of the septum proceeds from the centers situated in two different

bones, and that these deposits of ossific matter do not subsequently meet in the same plane." As for deviation of the cartilaginous septum, various reasons have been assigned for the anomaly: always blowing the nose with the same hand, or habitually sleeping with the same side of the face on the pillow, but the evidence in support of these views is entirely insufficient.

SYMPTOMS.

If the deflection is considerable the entire nose is misshaped or pushed or twisted to one side or the other, so that any one may notice the disfigurement, or if the deflection is not great there may be only a slight twist in the end of the nose. An examination of the anterior nares makes the deformity at once apparent. The projection of the deflection often encroaches upon the opposite side of the corresponding nasal channel. If such is the case, respiration may be interfered with and by this interference, the peculiar nasal twang acquired, functional troubles may appear, the discharge of the nasal secretion is prevented, which gives rise to post-nasal catarrh and its attendant evil results.

By pressure upon the turbinated bodies, their atrophy may be produced and dry catarrh be the result.

Erosions of the projection may often result in severe epistaxis as has been my experience in several cases.

This deviation, as a rule, is in the anterior third. Many operations have been suggested—the simplest being that of Michel, who directs gentle pressure to be made on the nose, with the finger toward the opposite side. To accomplish good, this must be repeated several times a day and only succeeds in young patients.

Blandin, to establish communication with the opposite open channel, where there was occlusion of one side, removed a stellate portion by means of a punch. Then follows Chassacqui who dissects up the mucous membrane and snips off a portion,

with Walsham succeeding by fracturing the septum with powerful forceps.

Within the last year two new measures have been suggested for operation on a different division of nasal deformities which are not mere deflections.

Dr. Bosworth, I believe, has made a decided improvement in the division of these deformities. I quote from his article in *Medical Record*, Jan. 29, 1887, as follows: "Deflections of the cartilaginous septum alone, in which we have the cartilage bent upon itself, as it were, and presenting a more or less obtuse angle in one nostril or the other, in which the projecting ridge in the majority of cases is vertical.

Second. Very rarely we have a deflection confined to the cartilage in which the projecting ridge approaches to the horizontal line.

Third. Perhaps the most frequent of the class of cases of genuine deflection is that, in which the whole of the nasal septum, including both the cartilage and the bone, is bent to one or the other side, forming a ridge in which the projecting edge runs from before backward and upward.

Fourth. Still more rarely we find cases in which the cartilage is bent to one side, while the vomer is deflected to the opposite side, forming, as it were, a sigmoid flexure, producing obstruction in both sides.

Then we have deformities of the septum which are not deflections.

A ridge may be found along the line of junction between the vomer and palatal junction—then again, it may be along the cartilaginous septum itself. The object in view is to restore normal nasal respiration. With Bosworth's saw have the best results be obtained in my hands; although in his distinguished hands no after trouble in the process of healing has been found, no ulceration, no marked hemorrhage, the results have not been so brilliant in mine. It is useless for me here to describe the little instrument with which these deformities are removed—it is familiar to you all. The secret

of its success is in making clean, smooth cut surfaces; if there should happen to be any growing, or ragged surface over which the new mucous membrane is to form, your patience, and that of the patient as well, will be severely tried, but if the surface is smooth, at the end of a few weeks the wound will be healed, and it will be almost impossible to discern the presence of any operation.

I believe that in the majority of ulcerations of the septum nasi, if the ulcerated surface be removed, provided it is on a projection or thickened septum, that the results would be more gratifying and satisfactory both to patient and operator. Ulceration following the operation, I have had but one case, which was not relieved until the surface was made smooth. Hemorrhage was quite severe in two cases, but was controlled by plugging.

It is unquestionably, a good idea to thoroughly plug the side operated. Plugging controls hemorrhage, makes gentle pressure upon the denuded surface and stimulates granulation. The best agent for this purpose, as it is for all nasal surgery, is the absorbent wool as prepared by Henry Thayer & Co.

The pathology of these deflections or deformities is indeed obscure. After a careful research of the authorities at my command, I am enabled to throw no light upon the subject. But I believe it is impossible to cure or even relieve for a given time, the average case of hypertrophic rhinitis or of chronic rhinitis without removal of the deformity. By the removal, one and the chief cause of nasal stenosis is done away with. Posterior to these outgrowths or thickenings, we generally find hypertrophied growths of the turbinated processes, which require the additional use of the cautery or of the destructive acids. Whereas, in chronic rhinitis, the removal of the deformity with a few subsequent and cleansing treatments effect a cure. It is an undeniable fact that many cases of asthma would

be relieved, if the nasal stenosis were relieved—for the reason that the majority commence with sneezing and sense of irritation and fullness of the nose.

Bosworth's conclusions I do not believe can be improved upon. His special points are:—

First. "That a nasal stenosis, due to obstructive lesion must necessarily be followed, sooner or later, by hyperæmia of the membrane beyond the point of obstruction; this occurring first in the nose, and secondly in the larynx, trachea and bronchial tubes."

Second. "A hyperæmia in the nose is liable to be followed by hyperæmia of the air passages beyond, as the result of an intimate physiological connection between the two, both deriving their vaso-motor control probably from the same central ganglia; this hyperæmia, either in one location or in the other, tending toward the development, first, of catarrhal inflammation with hypertrophy, as shown in the cases of laryngitis and bronchitis, dependent upon nasal disease, and only relieved by treatment of the nose, and second, in those cases in which the complete vaso-motor paralysis develops in the nose, giving rise to hay fever, which sooner or later is followed by vaso-motor paralysis in the bronchial mucous membrane, causing true asthma."

As to Dr. Jarvis' method, I have had no experience, but quote his description of the operation:

"My earliest results with the electric motor, in operations upon the septum, were obtained by means of a very ingenious dental instrument, devised by the late Dr. Robt. Arthur, of Baltimore, and for the use of which I was indebted to my friend Dr. Geo. Arthur, U. S. N. This little instrument, used by me not quite two years ago, was constructed to combine the greatest amount of working power with the smallest bulk, inasmuch as the drills and magnet were held in the hand, after the manner of a pen-handle, the mandrill and drill-chuck being

a direct extension of the armature. The efficiency of this motor is dependent upon the great number of its revolutions, that is, the acquired momentum, and it satisfactorily serves the purpose for which it was intended, namely, drilling the teeth. Although I succeeded in cutting away the dense structures entering into the formation of extensive deviations of the septum, the frequent retardation of the drill's revolutions when unusual pressure was exercised, gave rise to inconvenient delay in acquiring fresh momentum. For this reason I was compelled to abandon the employment of Arthur's hand-motor, and turn to bulky but more powerful devices of the kind to accomplish my purpose. I nevertheless believe that the application of direct power, in accordance with the principle of Arthur's motor or Roberts' electric osteotome, is the most rational, inasmuch as the loss of power through friction is reduced to a minimum.

The weight of electric motors possessing great rotary inertia renders the employment of a cable and independent hand-piece necessary. The first motor of this pattern, seen by me several years ago, was one known as the Hussey motor. Being intended for dental purposes, it was operated by means of a flexible cable, the weight of the instrument being supported by a cord attached to the ceiling. I experimented with one of Hussey's larger motors, but was disappointed in the instrument. Dr. Seiler drew my attention to the Griscom motor several years ago, and I embraced an opportunity to study its action for an extended period, but was not perfectly satisfied with the instrument. To Dr. Carl Seiler, I believe, is due the credit of first calling the attention of the medical profession to the utility of the electric motor in intra-nasal surgery.

The experience just described led me to discover and utilize the powerful but compact C and C electric motor. Inasmuch as this instrument has proved in my hands the desideratum sought for, I shall give it exclusive attention, only referring to other

motors for purposes of comparison. This electric motor is shown in Fig 1, together with the accessory operating appliances. The axle-shaft can be discerned projecting from the center of the motor-box. By simply unscrewing the face-plate the component parts of the motor can be readily reached and examined. The armature of the ring type is wound continuously, wire of trapezoidal section being used. The commutator brushes are so arranged that no injury can arise from reversing the motion of the armature. The commutator segments, seventeen in number, are placed in a circular manner, being separated by an interval of only one-sixteenth of an inch. This close arrangement of the segments secures uninterrupted and great power without sacrificing speed. Hence there is absolutely no dead points, a prevalent objection with electric motors, and the common annoyance of laboriously adjusting the armature at intervals during an operation is, by this device, relegated to the conveniences of the past.

The counter-electromotive force generated by the motor running at 1,300 turns a minute, with an 18-ampere current in the field is 5 volts. The revolutions can be carried as high as 2,000 to the minute. Its extreme capacity equals $\frac{1}{8}$ horse power. The dimensions of the instrument are $7\frac{1}{2}$ by 3 inches, and weighs 12 pounds.

A single quantity-cell supplies sufficient electromotive force for any ordinary nasal operation; two of these cells furnish an excess of power, even in operations including the densest portion of the vomer. To facilitate the attachment of the flexible shaft, I have constructed a metallic sleeve which slips over the journal-box of the motor. Within this sleeve is an angular rod, soldered to the flexible cable, which slips in a groove cut into the center of the axle of the armature.

The free movement of the rod within the groove favors the flexion of the cable and permits the shafting to be quickly attached

or withdrawn. The electric motor can be either attached to a convenient table or suspended by wires from the ceiling.

The wires running from the battery are interrupted before reaching the motor, and arranged upon a foot-board. The convenient cut-off thus formed is simply composed of a sheet of spring brass, which the pressure of the operator's foot brings in contract with a button, through which the electric current is conducted to the motor. This device, I have been recently informed, has been likewise invented by Mr. Griscom. Although it is possible by this arrangement to instantly cut off the current, if desired, the sudden interruption of the electric flow is not really required, inasmuch as the easy withdrawal of the small nasal drills, even while running at full speed, is a very simple procedure.

After experimenting with several kinds of batteries, I have finally settled upon a modification of Bunsen's cells, a plunge and a gravity battery, as the most convenient.

My improved plunge battery is so arranged that a succession of cells can be automatically thrown into the circuit by simply raising the lid of the box which supports the elements, sliding it along a rod, which serves as a hinge, and allowing the cover to descend, when the plates dip into the fluid, bringing themselves by their submergence into connection with the preceding cell. By reversing this procedure the plates are removed from the cells, being finally received into drip-cups, where they remain until used again.

The automatic connection of several cells by this arrangement obviously facilitates prompt action, and saves time, trouble, and complications likely to occur in the adjustment of key-boards and switches. If desired, this battery can, by a slight change in the connections, be converted from a series of cells into one giving the effects of a single cell, and therefore appropriate for running low-tension motors. By another arrangement, I am enabled to utilize the current

from a stationary gravity galvano-cautery battery.

The employment of small nasal drills, already referred to, I desire to lay particular stress upon, as constituting a desirable digression from the routine course heretofore pursued, of resorting to large and cumbersome devices of the kind in operations upon the nose. To facilitate the practice of keeping the parts operated upon constantly in view, the dimensions of the drill must necessarily be made small. When large drills are employed the ingenious shielded multiple knife of Dr. Goodwillie, for example, so effectively employed by him, a view of the field of operation is rendered difficult or impossible, and the operator is compelled to rely upon his acquired *tactus eruditus*, to the exclusion of the sense of sight.

The long practice required to attain the necessary tactile proficiency to operate with precision, though blind to the exact behavior of the drill, it seems to me, must seriously interfere with the extensive adoption of large nasal drills in general practice. Furthermore, surgeons will naturally hesitate to permit keen-edged cutting instruments to rapidly revolve out of sight in close contiguity to the brain, beneath the frail plate of the ethmoid.

The extreme narrowness of the superior meatus makes it impossible to satisfactorily employ shielded drills in this region.

Although keeping for convenience a number of nasal drills of different shapes and dimensions, I shall largely confine myself to the description of two of these, namely, my rasp drill and a nasal plane. The rasp drill is virtually a hollow file, the teeth of which have been made to project in the form of diminutive knife-points for the distance of one-sixteenth of an inch above the circumference of the tube. These pyramidal teeth are cut at intervals of one-eighth of an inch along the circumference of the steel tube, and their relation to each other is so adjusted that a simple rotation of the instrument

produces an incision resembling that made by the cut of a continuous knife-edge.

With this latter method, I have had no experience. In the operations upon twenty-two cases, some seventeen were good successes—in three the ulcerations have never satisfactorily and completely healed. This non-healing, I believe, was due to the failure in not dissecting up the covering of the cartilaginous deflection. In those cases, where the membrane was removed, before the use of the saw, the results were uniformly good. Another peculiarity, in these cases, was the presence of hypertrophic catarrh in the majority of them. One case, operated upon some ten months ago, I think, will be of interest.

Case 1. C. R. aged 22. Suffered from frontal headache for past four years. Examination of anterior nares revealed large hypertrophies of the turbinated processes in both nostrils. The one in the right nostril was removed by the Jarvis Snare. In the left the deflection of the septum was so great that the anterior portion of the canal was almost occluded. After paring up the membrane, the deflection was removed by means of the Bosworth saw. This was followed by severe hemorrhage which was with great difficulty controlled. After plugging the nostril with cotton saturated with 6 percent solution of cocaine hydrochlorate, allowing it to remain some twenty-four hours. Upon removal, found the wound clean. Subsequent treatment consisted in the use of the fluid petroleum (cheeseborough), in the atomizer, as a spray, thrice daily. Patient discharged in three weeks cured.

In the majority of cases, where indicated, the saw has given good satisfaction, although I believe that disappointment will be the experience of the majority using it in the first few cases. It is safe and simple of manipulation, requiring more patience than anything else, for the successful use of this comparatively recent addition to the surgical armamentarium.

DISTINCT AND
INDISTINCT
VISION.

BY

JAMES JURIN,

LONDON.

An appendix to "a complete system of opticks,"
by Robert Smith,
LL. D., Professor of

Astronomy and Experimental Philosophy, at
Cambridge, and
Master of
Mechanicks to his
MAJESTY."
Cambridge, 1738.

The oft-repeated claim that the present generation has witnessed the discovery of those defects of refraction which cause indistinct vision, and which are correctable by lenses, leads the editor of PROGRESS to republish some of the classical essays first published more than a century ago. It

must be apparent to the casual reader that many recent writers have greatly neglected the choicest pages of the early literature of ophthalmology. The works of Dr. Smith contain so much that has, from time, been rediscovered, it may be, after this first installment, the readers of PROGRESS would like a continuation from the writings of other authors of the earlier works in this department of science. If so, it shall be our pleasure to continue the good work.

The following forms the first part of Mr. Jurin's essay:

"An object is said to be seen distinctly, when its outlines appear clear and well defined, and the several parts of it, if not too small, are plainly distinguishable, so as that we can easily compare them one with another, in respect to their figure, size and colour. For instance the words of this book are distinctly seen, when the letters appear well defined, and their shape and the intervals between them are plainly perceived and distinguished, so as that the book may be read with ease. A single letter also is distinctly seen, when the several parts, of the letter, the connection of those parts, and the intervals between them are clearly perceived and distinguished.

2. In order to such distinct Vision, it has hitherto been commonly thought, that all the rays of a pencil flowing from a physical point of an object, must be exactly

united in a physical, or at least in a sensible point of the *Retina*.

3. But that such an exact union of the rays is not necessary to distinct vision, will manifestly appear upon making the following trials.

4. Take a title-page of a book, in which there is print of three or four different sizes: And first, place the book at such a distance, as that every sort of print may, without any straining of the eye, appear perfectly distinct. In this case it may reasonably be presumed, the rays of every pencil flowing from the letters are accurately collected into so many several physical or at least, sensible points upon the *Retina*.

5. Afterwards bring the book by degrees so near, as that the letters of the smallest print may now begin to appear a little confused, and can not by any endeavor or straining of the eyes be rendered so distinct as they were before. Then, keeping the book at that same distance, look at a print somewhat larger than the former, and that larger print shall seem perfectly distinct without any the least appearance of confusion.

Here, it is manifest from the less distinct appearance of the smaller print, that at this distance the rays of each pencil are not accurately united in a sensible point of the *Retina*, notwithstanding which the larger print appears distinct.

6. If the book be brought still nearer, the smallest print will now be quite confused, and the larger print will begin to appear indistinct: But keeping the book at this same nearer distance, a print still larger will appear distinct.

In this case the rays are still less accurately collected into points; and yet the largest of these prints appears as distinct as the two former prints had done in the former trials.

7. These experiments may be made the contrary way likewise, by putting on a pair of spectacles of a sufficient convexity, or by a shortsighted person without any spec-

tacles. In this case the book must first be held at such a distance, as that every sort of print may appear as distinct as possible: And must afterwards be removed successively to such greater distances from the eye, as that the smaller prints may one after another begin to appear confused, while the larger preserve their distinctness.

8. To those, who shall make these experiments with sufficient care, it will manifestly appear, that sometimes we have distinct vision, when the rays of each pencil issuing from the object are not accurately collected by the eye into a sensible point upon the *Retina*; and that this sort of distinct vision, without an exact union of the rays, it is not to be distinguished, even by an attentive eye, from that other sort of distinct vision where the rays are the most accurately collected into sensible, or even into physical points.

9. Distinct Vision may therefore not unfitly be divided into the two following sorts, or species, namely, Vision perfectly distinct, or *Perfect Vision*, and Vision imperfectly distinct, which I usually call, simply, by the name of *Distinct Vision*.

10. Vision perfectly distinct, or *Perfect Vision*, is that in which the rays of a single pencil are collected into a single physical, or sensible point of the *Retina*, as in ART. 4.

11. Vision imperfectly distinct, or simply *Distinct Vision*, is that in which the rays of each pencil are not collected into a sensible point, but occupy some larger space upon the *Retina*, yet so as that the object is distinctly perceived, as the larger print in Art. 5 and 6.

12. *Perfect Vision*, in a given eye, and a given disposition of that eye, depends only upon the distance of the object. It has no dependance upon the magnitude of the object, except only that it is requisite the object should not be so very small as on that account not to be perceivable. This excepted, at whatever distance any one object is seen perfectly distinct, all other objects do likewise appear perfectly distinct.

13 *Distinct Vision*, in a given eye, and a given disposition of that eye, depends upon the distance and magnitude of the object jointly; In Art. 5 the lesser print appears confused, because it is too near; but at a greater distance, as in Art. 4, it appeared distinct. And the larger print in Art. 5 appears distinct because of its magnitude; but it will appear confused at a less distance, as in Art. 6.

14. It appears therefore, that there is a real difference between *Perfect Vision*, and what we call *Distinct Vision*, and we design to enquire particularly into the reason why an object may be seen distinctly without *Perfect Vision*; but in order thereto, it will first be necessary to take notice of the principal *Phænomena* when objects are confusedly or indistinctly seen, and to examine into the causes of those appearances.

In doing which we shall generally speak of the object we consider, as being white or luminous upon a dark ground, though the *Phænomena* would be the same, and from the same cause, if the object were dark or black upon a white ground.

15. If a circular object be viewed at a distance proper for *Perfect Vision*, its picture upon the *Retina* will be circular, and proportional in diameter to the angle which the object subtends at the eye; its limb will be well defined, and all parts of the circular picture will be equally strong. Consequently, the idea thereby excited in us, will be that of a circle equally strong in all parts, and well defined.

16. If the same circular object be viewed at a distance much too small for *Perfect Vision*, its picture upon the *Retina* will be circular, but the diameter will be greater than in proportion to the angle which the object subtends at the eye; nor will the picture be equally strong in all its parts, but the middle part will generally be the strongest, and will be surrounded with a *penumbra* growing gradually fainter towards the outer edge, whereby the limb will appear indistinct and ill-defined. Consequent-

ly, the idea thereby excited in the mind will be that of a circle too large, and too faint and indistinct towards the limb. That is, instead of the appearance *A* Fig. 1, we shall have the appearance *B*, or *C*. or *D*.

17. The cause of this is not difficult to discover. For since, by our supposition, the distance of the circular object from the eye is too small for *Perfect* or *Distinct Vision*, it is obvious that the rays of each pencil issuing from the object cannot be united but at a point beyond the *Retina*, consequently the rays of each pencil will occupy a circular space upon the *Retina*.

Let, therefore, the circle *A B D C*, Fig. 2, represent that circular space upon the *Retina* which the image of the object would take up, if that object were perfectly distinct; or, which comes to the same thing, let *A B D C* represent that circular space upon the *Retina*, which is occupied by the centers of all the pencils of rays belonging to the indistinct image of the circular object. This circular space upon the *Retina*, represented by *A B D C*, we shall call the image of the object, and sometimes to distinguish it from other appearances, we shall call it the *true image*. Also let the circle *f g h c*, having its center *c* in the circumference of the former circle *A B D C*, represent that circular space upon the *Retina*, which is taken up by one of the extreme pencils of rays issuing from the object. This circle *f g h c* we shall call the *circle of dissipation*, because the rays of a pencil, instead of being collected into the central point *c*, are dissipated all over this circle, and the radius of this circle, *c f* or *c g*, we shall for the same reason call the *radius of dissipation*. And let the circle *a b d f C*, concentric with the first circle or the *true image*, *A B D C*, touch the circle *f g h c* in the point *f*.

18. Then, I say, 1, that part of the image of the circular object, which is represented by the circle *a b d f C*, will be equally strong in all parts, and will be of the same strength, as if the image of the object had been perfectly distinct.

To prove this, let the circles *A B D C*, *a b d f C*, Fig. 3, represent the same things as before, and taking any point at pleasure, as *c* within the circle *a b d C*, from that point as a center, with the *radius of dissipation c f*, draw the circle *f g h c*. Then it is manifest, that, as the pencil of rays whose center is the point *c*, is dissipated or scattered over the whole circle *f g h c*, and thereby helps to illuminate all the points or centers of pencils situated within the same circle; or the point *c* bestows a part of its light upon every other point of the circle *f g h c*, and receives an equal portion of light from each of those points, so that it is just as much illuminated as if the rays of its pencil had never been dissipated, but had been all collected into that one point *c*, as they would have been, if the image had been perfectly distinct. And as this is true of every point within the circle *a b d C*, it is manifest that this whole circle must be strongly illuminated, as if the image had been perfectly distinct, and must be equally strong in all its parts.

This part of the *true image*, represented by the circle *C a b d*, which loses none of its light by dissipation, but is as strongly illuminated as if it were seen by *Perfect Vision*, and is equally luminous in all parts of it, we shall, for distinction sake, call the *false image*.

19. I say, 2, The circular ring *A B D d b a*, comprehended between the circumferences, of the two circles *A B D*, *a b d*, Fig. 2, 3, whose breadth is equal to the *radius of dissipation*, or that part of the *true image* *A B D C*, which lies without the *false image* *a b d C*, will not be so strongly illuminated as the *false image* *a b d C*, and will gradually grow fainter towards its extremity.

For, let the circles *A B D C*, *a b d C*, Fig. 4, represent the same things as before, and taking two points within the circular ring *A B D d b a*, one more inward as *c*, and the other more outward as *m*, from the centers *c* and *m*, with the radii *c f*, *m n* each equal to the *radius of dissipation*, draw the two circles *c h f g*, *m n o*, cutting the cir-

cumference ABD in the points b and f , n and o , respectively.

Then is it plain, that the pencil, whose center is the point c , will dissipate its rays into the whole circle $cbfg$; but that it will not receive light from every point in that circle, but only from those points of it that are likewise situated within the circle $ABDC$. All those points therefore, that are comprehended within the *Lunula* $b f$, return no light to the point c in recompence of what they receive from it. The point c , therefore, gives away more light than it receives, and will consequently appear darker than any point within the circle $ab d C$, and this excess of darkness will be measured by the area of the *Lunula*, $b f$.

In like manner it will be found that the point m must appear darker than any point in the circle $ab d C$, and that this excess of darkness is measured by the *Lunula* $n o$. But the *Lunula* $n o$ is greater than the *Lunula* $b f$, and consequently the point m , which is nearer to the outside of the ring, is darker than the point c which is more inwardly situated. The whole ring, therefore, is darker than any part of the circle $ab d C$, and grows gradually darker towards its outer edge; and at the very extremity it has not half the light of any part of the circle $ab d C$, as is manifest by the inspection of the circle $g f b c$, Fig. 2.

20. I say, 3, Besides the ring last described, which is darker than the *false image*, or the circle $ab d C$, there is another ring of equal breadth, situated without the *true image*, or the circle $ABDC$, which is still darker, and whose light gradually diminishes towards the outside, till it becomes insensible, and at last vanishes away into nothing.

For, let $ABDC$, Fig. 5, represent the same thing as in Fig. 2, and from the center c taken anywhere in the circumference ABD with the *radius of dissipation* cg , draw the *circle of dissipation* $c g b f$, and from the center C describe the circle $G F H C$, touching the *circle of dissipation* in the point

g . Then, between the two circumferences ABD and $G F H$ will be comprehended a new ring $ABD H F G$, of the same breadth with the former ring $ABD d b a$, Fig 2, 3, 4. This new ring will receive light from the pencils, whose centers lie within the former ring; but it will be darker than any part of the former, and its light towards the outer edge will gradually diminish till it vanishes into nothing. This is manifest from the inspection of the figure, where the light received by the point c situated on the inner edge of this ring is measured by circular segment $b f$, and the light received by the point m , situated near the outer edge, is measured by the much smaller circular segment $n o$.

This second ring, which lies without the *true image*, and gradually decreases in light towards its outside, we shall take leave to call, for distinction sake, the *annular penumbra*.

From what has been said, it appears that if the radius CA of the circle $ABDC$, or of the *true image*, be called r , and the radius of the *circle of dissipation* $c f g h$ be called g , the radius of the *false image*, or of the circle $ab d C$, will be the difference of those two radii, or $r - g$, the breadth of each of the rings $ABD d b a$, Fig. 2, and $F G H D B A$, Fig. 5, will be g , and the radius of the whole appearance or of the circle $C F G H$ will be the sum of the radii of the *true image* and of the *circle of dissipation*, or $r + g$.

Having shown that a circular object, when viewed at two small a distance for *Perfect* or *Distinct Vision*, must appear more strongly illuminated in the middle and fainter towards the edge, I proceed now to consider some particular causes of this phenomenon, which I shall have occasion to apply hereafter to other purposes.

21. If, in Fig. 2, the *radius of dissipation* be increased, the *false image*, or the circle $ab d C$, which preserves its full quantity of light as much as if the image were perfectly distinct, will grow less, and the ring $ABD d b a$ and the *annular penumbra* with-

out it, $ABDHFG$, will both grow proportionably broader, as in Fig. 6 and 7, so that the circular object, from appearing as B , Fig. 1, will come to the appearance C , or to some other where the *nucleus*, which is fully illuminated, will be still smaller, and the shade arising from the two rings above mentioned, will be broader.

22. If the *radius of dissipation* be equal to the radius of the *true image*, as in Fig. 8, the *false image*, or the circle $Cabd$, whole radius is $r-g$, will now vanish, and the ring $ABDdba$, Fig. 6, 7, will degenerate into and take up the whole circle $ABDC$. Consequently, there will now be no part of the image, that will have its full quantity of light as if the image were perfectly distinct, except the central point alone which will receive light from every other point; nor will there be any two points at different distances from the center that will be equally illuminated; but the light decreasing all the way from the center will grow gradually fainter towards the extremity, as is manifest from Fig. 9, 10, in each of which the measure of light received by the point c , nearer to the center in the one, and more remote in the other is expressed by the gibbous segment bh . For in the first of these Figures, where the point c is nearer to the center C of the image, the gibbous segment gh , and consequently the light thrown upon the point c , is greater than in Fig. 10, where the point c is more remote from the middle of the image.

23. If the *radius of dissipation* exceed the radius of the *true image*, as in Fig. 11, we shall again have a portion of the *true image*, which will be more strongly illuminated than the rest, though not so strongly as by *Perfect Vision*, and which will be equally luminous in all parts; and this portion will be seated in the middle of the *true image*, and will be surrounded by an appearance less luminous and decreasing gradually in light towards the outer edge.

For in Fig. 11 let the circle $CABD$ represent, as before, the *true image* of a circular

object upon the *Retina*; and taking a point as c , in circumference ABD from the center c , with the *radius of dissipation* ch , greater than Cc the radius of the *true image*, draw the *circle of dissipation* $cfgh$. Then from the center C , with the radius Cb , equal to the difference between the *radius of dissipation* bc , and the radius, of the *true image* Cc , describe the circle $Cabd$, touching on the inside the *circle of dissipation* in the point h . Also, from the same center C , with the radius Cg equal to the sum of the *radius of dissipation* cg , and the radius of the *true image* Cc added together, draw the circle $CFGH$ touching the *circle of dissipation* on the outside in the point g .

24. Then I say, 1, that part of the *true image* which is represented by the circle $Cabd$, will be equally luminous in all parts; for the point h in the circumference of this circle will be distant from c , the most remote point of the *true image*, but just the *radius of dissipation* hc , and will therefore receive light from that point c . Much more will the point h receive light from every other point of the *true image* less remote from it than the point c ; and much more still will any other point within the circumference abd , receive light from every point of the *true image*.

Since, therefore, each point of this circle $Cabd$ receives light from every point of the *true image*, this circle must be equally illuminated in all parts.

25. I say, 2, this circle $Cabd$ will not be so strongly illuminated, as if it were seen by *Perfect Vision*.

For, since any point in this circle, as C , scatters its light into a circle as large as the *circle of dissipation*, and receives light only from the circle $CABD$, less than the *circle of dissipation*, it is manifest that this point gives away more light than it receives back, and consequently must be less luminous than if it were seen by *Perfect Vision*.

(TO BE CONTINUED.)

OBSTETRICS AND GYNÆCOLOGY.

THE ENDOMETRIUM.

BY

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Read in the Section of Ob-
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I know of one method only by which the diseases of the uterine mucous membrane can be diagnosed with accuracy, and that is by the microscopic examination of portions removed by means of the curette. In the majority of cases a fairly correct

diagnosis may be arrived at without resorting to the microscope, but not with certainty. When, for example, a medium-sized curette can easily pass into the uterus, and is there found to be freely movable in an enlarged cavity, and over a soft and velvety but irregular surface; and when its cutting edge is used long strips of hyperplastic membrane come away, we should probably be correct in supposing the case to be one of fungous endometritis, but it might be one in which the decidua had been retained, or a simple or malignant adenoma; for the appearances of these to the naked eye present a very close resemblance to each other, but microscopically they differ very widely. Should only a few small shreds of thin membrane be obtained, even after very vigorous scraping, we believe the case to be one of atrophy, but could not tell to what variety of this condition it appertained. Small, friable, whitish particles are strongly suggestive of cancer, but even then the microscope will be necessary; and here we meet with the most important, and often, I believe, the most difficult, problem, namely, to determine with certainty from specimens obtained the malignancy of the disease. I must confess that I never have done this myself, but I do not think that during the four years since I have adopted this method such a case has come under my care. It has, however, been done by others; the uterus excised in consequence, and the diag-

nosis confirmed by the subsequent examination of the specimens obtained, and it is a very remarkable fact that, considering how few are the recorded cases of malignant disease limited to the body of the uterus, so many as eleven should have been diagnosed during the last seven years by a single individual, namely, Dr. J. Veit, of Berlin. This is to my mind strongly suggestive of the belief that a large proportion of such cases are not detected until after the disease has involved the cervix or the neighboring organs, because of imperfection in the methods of diagnosis usually employed; and that were the curette and microscope used more systematically, we should more often succeed in discovering this terrible malady at a time when its removal would offer a reasonable prospect of permanent relief.

This method of diagnosis was introduced by Récamier about forty years ago, and it is from it that most of our knowledge of the diseases of the uterine mucous membrane has been derived. He devised the curette by means of which he removed "*fongosités*" or vegetations, and subsequently applied some caustic to the denuded surface. The particles removed were examined microscopically by Robin, who gave a very exact description of their structure, corresponding with what is now generally known as fungous endometritis. De Sinéty and Rugé have distinguished in the same way three distinct forms of endometritis, according to the relative development of the glands and inter-glandular tissue; but as all these forms may occur simultaneously in the same uterus, this division appears to be rather too artificial. If, however, Martin's opinion, that the more the glandular development predominates, the more liable is the disease to assume a malignant character, and Wyder's that the more the interstitial tissue is developed, the greater is the hemorrhage, prove to be correct, then it will be a very important one.

Retention of the decidua after abortion is one of the commonest affections of the ute-

rine mucous membrane. When examined microscopically it contrasts very strongly with fungous endometritis, owing to the absence of glands, and it will, I believe, always be found in a state of inflammation. Whether this is the cause or the result of its retention, I am unable to say; but, in either case, it indicates the advantage of its early removal. Of the atrophic forms of endometritis, two appear to me of especial interest—first, that described by Schroeder as dysmenorrhœal endometritis, in which there is a development of the intra-glandular tissue leading to the obliteration of the glands themselves, and a subsequent cirrhosis or atrophy of the membrane; and secondly, a condition described by Zeller as “psoriasis uterina,” in which the uterine cavity is lined with scaly epithelium. I mention these forms especially, because it was by the microscopical examination of particles obtained by means of the curette that they were discovered. The curette and microscope are accordingly most efficient means of diagnosis, but their use is, in this country at least, generally regarded as advisable in exceptional cases only, and after the ordinary methods, by means of the sound and introduction of the finger after dilatation of the cervix, have failed. Now, as regards the latter method, it is not only more painful, and involves greater risk to the patient and a much greater expenditure of time on the part of the practitioner than curetting, but, what is of more consequence, it seldom yields much useful information. Only gross pathological changes can be distinguished by the finger, and in proof of this I would refer you to the writings of those who practice either method exclusively. There you will find that by those who advocate the curette and microscope not only are definite pathological conditions described and figured, but there is a remarkable unanimity in their opinions as to the nature of these conditions, whilst amongst those who do not employ them we find such vague and unsatisfactory

terms as “granular conditions,” “pulpy states,” “irritable membranes,” etc., expressing not the nature of the conditions present, but only the impressions which they conveyed to their fingers; while in such conditions as are not palpable in this way only two courses are open to them, either to deny their existence altogether, or use some indefinite term such as “intra-uterine disease,” without any attempt to define it more exactly. Let me quote an example from the work of such an eminent gynecologist as Dr. Emmet, who speaks of the curette as “an instrument which has proved a most objectionable one;” and as regards the instrument of Dr. Sims, “he honestly believes that the ingenuity of man has never devised one capable of doing more injury.” His knowledge, therefore, we may assume, has not been derived from the use of this instrument. He mentions four forms of disease to which the uterine mucous membrane is liable. First, a form of disease usually the result of pregnancy, and characterised by hemorrhage, which, he says, “is common but little understood, microscopists not having, to his knowledge, fully investigated the subject;” a second condition is frequently met with, “which some writer has compared to granular conjunctivitis;” and a third “resembles the pile of velvet, and when floated in water it seems to consist of prolongations of blood-vessels from the muscular tissue;” and lastly, “a thickened condition of the membrane, which could be easily detached in long strips like the skin which has been scalded, and is blanched in appearance.” Now I would point out that in not one of these cases is the real nature of the disease described. In the first he says it is unknown, the second is like granular lids, the third like velvet, and the fourth like scalded skin; but what we want to know is, not what a disease is like, but what it is. What should we think of an oculist who described granular ophthalmia as a disease resembling decidual endometritis? I have selected Dr.

Emmet's work in order to show that no matter how brilliant and observant a man may be, ignorance and confusion must result from the rejection of the only source of knowledge.

In spite of the obvious advantages of the curette as a means of diagnosis, its advance toward general acceptance has been but slow. Récamier's results were very brilliant, and although he perforated the uterus in a few cases, I believe that no evil resulted therefrom. However, its introduction met with such a storm of opposition that in spite of the advocacy of Sir James Simpson, Olshausen, Marion Sims, and others, it made but little way until four years ago, when a revulsion of feeling in its favor occurred. Certain dangers naturally suggested themselves as likely to follow its use, and especially that the mucous membrane having been thoroughly removed, it would be replaced by cicatricial tissue, and thus sterility would result. Reasoning from analogy we should expect this to occur, but analogy does not hold good in this instance. The uterine mucous membrane differs from every other in its rapid and complete regeneration, as was clearly proved by Dr. Martin, of Berlin, and his assistant Dr. Düvelius and it was the publication of the investigation of this subject by the latter which marked the epoch to which I have already referred, since which this method of diagnosis and treatment has rapidly gained in popularity. The most remarkable cases recorded by Dr. Martin, were those of two women who had been repeatedly curetted cauterized for adenoma of the mucous membrane; but were at last reduced to such an anæmic condition that as a last resource the uterus was removed. In one of these cases the last scraping took place two months, in the other four months, previously. The microscopic examination of the organs after extirpation showed that the newly developed membrane was related to the muscular and intermuscular connective tissue in the usual manner, nor was a cicatrix to be found any-

where in the mucous membrane, or between it and the muscle. Theoretically there is no reason why pregnancy should be interfered with, but on the contrary it should rather be favored by the removal of a diseased membrane, and its replacement by another which we have every reason to hope may prove a healthy one. Now as a matter of experience this has been found to be the case. Dr. Düvelius found that out of the patients operated upon by Dr. Martin and himself between 1879 and 1883, sixty were known to have subsequently become pregnant, and of my own cases I know of six, but as I could not trace all my patients the number is probably greater. It is therefore evident that, no matter how thoroughly the curetting may be carried out, the membrane will be regenerated, that this new membrane is not cicatricial in structure, and that the operation favors rather than hinders the occurrence of pregnancy.

Let us now consider the treatment of these diseases. The chief indications are, first to remove the diseased membrane as completely as possible, and then endeavor to induce a healthy growth in the new one. These two indications are best fulfilled by the use of the curette, and by subsequent injections of strong solution of iodine or iodised phenol. Why should we spend months and years in making applications to a membrane which may be removed in a few minutes, with the certainty of its being speedily replaced by at least as good, but probably a better one? That the new membrane may be diseased is true, but this objection will apply to every form of treatment, and speaking generally we may say that the success which has attended any therapeutic agent has been in direct proportion to its power of destroying the diseased membrane. This explains to us the marked benefit derived from the use of powerful caustics, especially the fuming nitric acid. In Dublin we have had remarkable success with this agent, but it is inferior to the curette.

PATHOLOGY AND HYGIENE.

STAINING SEC-
TIONS OF THE
BRAIN AND
CORD.

Dr. Frank J. Wethered, in a communication to the *British Medical Journal*, says:

I am indebted to Dr. J. Pal, of the Pathological Institute in Vienna, for permission to publish a new method recently introduced by him, for staining sections of the brain and spinal cord.

It is in reality a modification of the method first introduced by Professor Weigert, but differs from it in many particulars. Dr. Pal claims the following advantages for this modification. The picture produced is sharper in outline; the nuclei and nerve-cells can be separately stained, and the process is a more speedy one. Not the least advantage is that the treatment of the sections by a solution of the acetate of copper is entirely done away with. Having worked with both processes myself, I can fully confirm all that Dr. Pal states. Dr. Pal's method is as follows:—

The spinal cord or brain is hardened in Müller's fluid in the ordinary manner, and when ready is embedded in paraffin, and the sections cut into absolute alcohol. An aqueous solution of hæmatoxylin of the strength $\frac{3}{4}$ per cent. is then made by dissolving the hæmatoxylin by means of heat, and, after cooling, some alcohol is added. This solution must not be kept very long, or allowed to stand in the sunlight. Immediately before using, a few drops of a solution of carbonate of lithium are added; on the addition of this salt, the solution assumes a violet red color. Dr. Pal uses three or four drops of the lithium carbonate solution to 10 cubic centimètres of the hæmatoxylin. The sections are allowed to remain in this stain for about five or six hours, at the end of which time they should be of a bluish-black color; they are then thoroughly washed in water until no more color comes out; if they do not appear to

be deeply enough stained, a few drops of the solution of lithium carbonate may be added to the water in which they are washed.

The sections are next to be "differentiated" for this purpose they are first placed in a $\frac{1}{4}$ per cent. solution of permanganate of potash for 15–20 seconds, and then for a short time into "Pal's solution," until the white and grey matters are plainly defined; this is generally completed in one or two minutes. If black specks are seen on the sections, or if the white and grey matters are not quite distinctly defined, the process is to be repeated. "Pal's solution" has the following composition: Oxalic acid, 1 part, sulphide of potassium ($K_2 SO_3$) 1 part, distilled water, 200 parts.

After having been taken out of this solution, the sections are thoroughly washed in water, and the nuclei may then be stained in eosin or carmine, the stain which acts best being alum-carmine. After another washing the sections are dehydrated by absolute alcohol, cleared in oil of cloves or creasote, and mounted in balsam.

Stained in this manner, the medullated nerve-fibres are colored blue, and stand out sharply on a white background, presenting a strong contrast to the red nuclei.

In order to bring out the nerve-cells prominently, after the specimens have been "differentiated" they are placed for a short time in picro-carmine, which should be only slightly alkaline, and, after being washed in water, the nuclei may be stained as before in alum-carmine.

GIBBES'
DOUBLE
STAIN.

The use of Dr. Gibbs' double stain for the *bacillus tuberculosis* has been unsatisfactory to many. It should always be heated in a tube and poured into a watch-glass, and the prepared covers allowed to float on the hot stain for five minutes, then washed in methylic alcohol.

BOOKS AND PERIODICALS.

RECTAL AND
ANAL
SURGERY,

With a Description of the
Secret Methods of
the Itiner-
ants.

BY

EDMUND ANDREWS,

M. D., LL. D.,

*Professor of Clinical Sur-
gery in the Chicago
Medical Col-
lege,*

*Senior Surgeon to the Mercy
Hospital; and*

E. W. ANDREWS,

A. M., M. D.,

*Adjunct Professor of Clin-
ical Surgery in the
Chicago Medi-
cal College.*

With Original Illustrations.
Chicago: W. T. Keener,
1888.

The object of this work, which is a modest duodecimo, of 111 pages, is to answer two questions, namely: (1.) What are the best methods of diagnosis and treatment of rectal diseases known to the regular profession? (2.) What are the secret methods of the itinerants, and what is their value?

About 1871, says Dr. Andrews, "a young and impecunious physician settled in a village in central Illinois. Having abundant leisure, he

expended a portion of it in contriving a plan of treating piles by injecting into them, with a hypodermic syringe, a mixture of carbolic acid and olive oil, in the proportion of one part of the former to two of the latter. Succeeding fairly well, he soon set out as an itinerant pile doctor. His method became popular. Quacks sold the secret to each other at high prices. They divided up the United States into districts, and sold local rights to practice the plan." The speculation in local rights flourished amazingly, until 1876 Dr. Andrews published the secret in about fifteen medical journals, and thereby put a stop to the sale of the secret. Presently these itinerants, who had been obliged to settle down into small territory, found themselves unable to treat diseases of the rectum, such as fistula, ulcers, etc. They needed more knowledge and more apparatus. Demand, however, produced a supply; and, it was long before a so-called doctor conceived the idea of publishing a pamphlet descriptive of the nature and treatment of about five of the most common forms of

rectal disease. Accompanying this was a little case of instruments, worth intrinsically about fourteen dollars. The plan proposed in the pamphlet was called "a system of rectal surgery." The plan was sold as a secret along with the case of instruments to the itinerants for one hundred dollars, and sometimes as much as three hundred dollars. The medicinal preparations advised in the pamphlet had to be purchased from the author. Presently other systems, so-called, sprang into existence, and these were accompanied by some alterations in the instrumental outfit. Presently it was suggested the rectal papillæ and the saccules of Horner were to be accounted as awful lesions, with terrible consequences; and it was recommended, therefore, that they should be snipped out or split open.

Prof. Andrews has managed to illustrate his little manual in such a happy and practical way as greatly to enhance the value of the text. In the chapter on fistula in ano, the author says: "Dr. Mathews, of Louisville, has systematized the plan of treatment. He dilates the external part of the fistula with a long, laminaria tent, and then inserts Otis' urethrotome, and both dilates and scarifies the internal opening, repeating the operation as often as needful. He does not speak of any antiseptic injection, but claims success in some twenty cases. The truth is that anal fistulæ have a natural tendency to recover, and are held back from it, mainly, by two causes: First, the unfavorable effect of the undrained septic fluids within the sac. Second, the tightness of the external opening, which prevents free drainage, and keeps the sac distended with this putrid pus. It is demonstrated by Dr. Mathews, on the one hand, and the experiments of the quacks, on the other, that by controlling these conditions many cases will heal spontaneously. It follows that among those patients subjected to cutting operations by surgeons for these diseases, there are many who might be cured by milder means.

While we unhesitatingly accord to this

manual a high order of merit, we feel constrained to say the objects set forth in the preface are unworthy so able a surgeon as Dr. Andrews; who, although he annihilates the quacks and their methods, which are alike held up to public scorn and ridicule by Dr. Andrews and many other members of the regular profession, it must be admitted the same quacks who are so ridiculed, are thereby enabled to profit by the sympathy which a credulous public always bestows upon the man who seems to be persecuted; and so Dr. Andrews becomes, in the estimation of the general public the persecutor of each one of these canny creatures who may have been engaged in operating upon the credulity of the patient by cutting open Horner's saccules or splitting the papules of the rectum.

THE RULES
OF ASEPTIC
AND ANTI-SEPTIC SURGERY.

BY

ARPAD G. GERSTER,
M. D.,

Professor of Surgery at the
New York Polyclinic,
Visiting Surgeon
to the Mount
Sinai
Hospital and the German
Hospital, New York.
A Practical
Treatise
for the use
Of Students and the General
Practitioner.

Illustrated with 248 engravings and three-chromolithographic plates. New York: D. Appleton & Co., 1888.

"The object of this volume is a systematic, yet practical, presentation of the Listerian principal, which has revolutionized surgery in the last fifteen years." The first sentence of the preface marks a distinction which a great many writers seem to be in no way inclined to recognize. It is "the Listerian principle which has revolutionized surgery within the last fifteen years," which engages the at-

not a particular form of spray or apparatus. Asepsis is the great object sought; and, where it is doubtful this has been obtained, antisepsis is employed, with every precaution possible to insure its efficiency. Asepsis secured, the result of nearly all operations may easily be foretold. Antisepsis employed, the result, though less hopeful, may be perfect or not, according to the efficiency of the antiseptic measure employed, and the amount of septic matter to be neutralized.

The illustrations in Dr. Gerster's book are nearly all from photographs, and illustrate the thorough mastery of the technic of operative surgery which characterized the author in his work in the hospitals of New York.

The perspicuous and terse style of the author, and the rich stores of his experience are indeed matters which add greatly to the pleasure of the reader.

At page 268 this heading appears: "Cutaneous Tuberculosis, Lupus." Says Dr. Gerster: "Various chemical caustics, the actual cautery and excision, are known to effect a cure of cutaneous tuberculosis. Internal medication has no effect upon it. The most destructive forms of lupus are those representing a complication of tuberculosis with pyogenic infection, as, for instance lupus exedens." He illustrates the subject with a cut from Koch, showing a giant cell in a section of the skin. The cell contains one fully developed bacillus tuberculosis. The subject is further illustrated by the citation of a case which is considered conclusive.

The surgical treatment of syphilis occupies the last chapter of the work, which is brief and practical, as are all of the preceding portions of this book. It may be truthfully said there is less theory and more practical science displayed in this than in any other work on surgery. It is difficult to review it, because it is in so many ways a unique specimen of the most advanced, and yet practical authorship. The only alteration that we could suggest is an enlarge-

tention of practical surgeons, and not the Listerian principle involved in the use of certain apparatus, which, being found poorly adapted for the uses originally intended, have long since been cast aside, even by Lister himself. *Fort mit dem spray* has become as obsolete now as the formula for the preparation of Minder's spirit. It is the other principle that Gerster presents, and

ment of every part, and an extension of every chapter. The pathological knowledge of the author is briefly presented as an explanation of the treatment, which latter is illustrated by cuts made from photographs taken on the spot.

To the teacher of pathology, as well as he whose office it is to train the dextrous hand in the cunning paths of the *ars chirurgica*, it is like the sunlight, which illumines every part of the earth, not at once, but in detail.

OPERATIVE SURGERY ON THE CADAVER.

BY JASPER JEWETT,
GARMANY, A. M., M. D.,
F. R. C. S.;

*Attending Surgeon to the
Out-door Poor Dispensary
of Bellevue Hospital;
Visiting Surgeon to the 99th St.
Reception Hospital,
Branch of the Bellevue
Hospital;*

*Member of the British
Medical Association, etc.*

New York: D. Appleton &
Co., 1887. Octavo. Cloth.
Pp. 150. Price \$2 00.

The work is dedicated to the memory of the author's preceptor, the late Dr. James R. Wood. The preface is written in five lines, in which acknowledgement is made to Stephen Smith's Operative Surgery. This little manual may serve the purpose of pointing the way to such students as are unable

to procure the services of a tutor. To the practitioner and the teacher it will present but few points of interest. It is more in the nature of an elaborate index to the subject than a systematic treatise. It may prove useful in the dissecting-room, but one feels a little more inclined to look to clinical demonstration rather than operations on the cadaver for that sort of surgical information which shall constitute the qualification to practice.

There are, however, many points in the technique of cutting the form-Divine which it were better to practice first on the cadaver. So, after all, it may be well said, the way is made both plain and easy by Dr. Garmany's manual.

CORRESPONDENCE AND SOCIETIES

SPINAL

CURVATURE.

BY

PROF. LEWIS A. SAYRE

M. D.,

NEW YORK.

To the Editor of PROGRESS.

DEAR SIR—In your February number I find an article on 'Spinal Curvature' by Dr. J. A. Comingor, in which he alludes to me by name, and even asks me a direct

but perfectly proper question, and I therefore deem it my duty to the profession as well as to myself to give it an immediate and decisive answer, as silence on my part might lead to the belief that I had abandoned the treatment I have advocated for so many years, as he would seem to intimate.

He says: "I believe the credit of introducing the jacket in the treatment of curvatures is due to Dr. L. A. Sayer, who sent it forth in strong and enthusiastic language; he placed it above and beyond all others; doubtless that was his opinion then; is it his opinion now?"

I answer most emphatically and unequivocally that it is. And the opinion is based upon the careful observation and recorded histories of many hundreds of cases in which, without a single exception, the patients who had worn other kinds of support, gave the preference to the plaster jacket as soon as it was applied, and continued its use until they were cured. And those not cured are still wearing them. I have never had to wear a spinal brace, or a plaster jacket, and therefore can not give an opinion from *personal* experience as to the relative comfort and support given by each. But from the unanimous testimony of so many hundred suffering patients, who have tried both, and in all cases have given the preference to the "jacket" over the "iron brace," I am compelled to be governed by their evidence gained by personal experience, rather than by the theories and speculations of any medical man, no matter how wise and learned he may be on other subjects.

After condemning the iron braces with crutches, commonly used for lateral curvature, he says: "The plaster jacket must share in the condemnation, for it is only another and surer way of *torturing* the innocent."

I can only say that, if the plaster jacket causes the slightest pain, much less torture, it has been *improperly* applied, and should be immediately removed, and another one put on *properly*.

He also says: "Young children become frightened while suspended, and fight to the bitter end; older ones faint, etc." I feel that I am justified in saying that in either case here discribed it must certainly be the fault of the physician making the application, for I have seen my sons apply many scores of jackets to very young children in the presence of many hundred students and medical men, and I am quite certain that every one who saw the applications will cheerfully testify that in no single instance did the child either "fight" or "faint."

I have not time to answer all the Doctor's objections, in fact, did not intend to write so long a letter as this; but I wish simply to put myself on record as not having abandoned the treatment, but from daily experience, am more and more convinced of its infinite superiority over any other plan of treatment yet devised.

Very respectfully,

LEWIS A. SAYRE.

ASSOCIATION
OF AMERICAN
MEDICAL
EDITORS.

The following programme has been arranged for the meeting at Cincinnati, Monday evening preceding the American Medical Association, May, 1888:

Meeting called at 8 P. M.
Reading of minutes.
President's address, Dr. William Porter, of St. Louis.

Report of Committee on Organization, Dr. McMurtry, Chairman, Danville, Ky.
Election of officers for ensuing year.
Extraordinary business.
Questions for consideration.

1. Is the multiplicity of medical journals an advantage to the profession? To be discussed by Drs. Crothers, Hartford; Sim, Memphis; Wile, Conecticut; Love, St. Louis; Culbertson, Cincinnati; Cushing, Boston; Coomes, Louisville, and Gray, Chicago.

2. How far do medical journals distributed by drug houses and manufacturers interfere with regular medical journalism? To be discussed by Drs. Reynolds, Louisville; Davis, Chicago; Shoemaker, Phlladelphia; Bond, St. Louis; Connor, Detroit; Kiernan, Chicago; Thacker, Cincinnati, and Fulton, St. Paul.

Members are requested to limit their remarks to fifteen minutes and if possible to ten. The place of meeting will be posted in all the hotels by the local committee.

Arrangements can be made at this meeting for a "press dinner" for another evening during the week, but it will be impossible to conclude the business of the Association and have the dinner the same evening.

AMERICAN MEDICAL ASSOCIATION.

The American Medical Association is to meet the first Tuesday in May at Cincinnati. The secretaries of the various sections have been busily engaged in correspondence with those most likely to have papers to read or subjects of importance for discussion. The result is that unusual interest has been awakened, and, on account of a commendable increase in the spirit of fraternity, and in the sense of the importance of organized effort in the ranks of the profession, an extraordinarily large assembly is expected.

PROGRESS

A MEDICAL MAGAZINE. ISSUED MONTHLY.

DUDLEY S. REYNOLDS, A. M., M. D., EDITOR.

THOMAS C. EVANS, M. D., ASSISTANT EDITOR.

W. C. DUGAN, M. D., BUSINESS EDITOR.

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VOL. II. LOUISVILLE, MARCH, 1888. No. 9.

MEDICAL

EDITORS.

The association of American Medical Editors will meet on Monday evening, before the meeting of the American Medical Association. The Burnett House is to be Press Headquarters. Every member of the medical press in the United States is expected to be present, either in person or by representative. The Porter of this great organization announces that members shall have no dinner on that day, as the business of the organization is so important no time will be permitted for dining. Now, let us see that our Porter does not dine until after the adjournment of the association.

MEDICAL

LEGISLATION.

A member of the Kentucky Legislature recently brought in a bill to regulate the fees of physicians, which very poorly concealed the fact that he wished by legislative enactment to escape the payment of fees for the service which secures him sufficient health to enable him to get before the public in an attempt to disgrace humanity and insult the intelligence of the people of Kentucky. What a towering intellect a miserable creature like that must have to suppose by legislative enact-

ment he would be able to fix the fees of physicians, just as though they were obliged to serve him at his beck and call and allow him to name the terms. Why, it is monstrously absurd. If such a bill should have any chance to become a law, it would result only in doing away with that abominable credit system which has demoralized the profession in many parts of the country, and, no doubt, act like a boomerang, inducing every physician to demand his fee in advance whenever the author of such a bill should feel need of professional services. Surely the editor of PROGRESS would take great delight in demanding a good round sum from such a creature; and it is fair to assume every respectable medical man in the country would do likewise. An office consultation for which another person would be expected to pay five dollars, would cost such a creature as that twenty-five dollars at these headquarters. Now, let the bill pass, and we shall see, if, instead of degrading the medical profession, it does not serve the purpose of really elevating its scale of fees, and abolishing the credit system altogether.

PHILADELPHIA

COMMENCEMENTS.

The medical colleges of Philadelphia have set a noble example in celebrating the annual commencement exercises by alumni addresses. On the 5th of April, the Jefferson College Alumni Association will enjoy the distinction of an address from Prof. Austin Flint, Jr., of New York, whilst the Medico-Chirurgical College, never to be outdone, has selected Surgeon General John H. Hamilton for its orator.

The editor of PROGRESS can bear testimony to the magnificent manner in which the Medico-Chirurgical College conducts its commencement exercises. It has been truly said that the alumni make a medical college. An illustration of this may be seen in the Alumni Association of the Medico-Chirurgical College, which, though but a few years old, vies successfully with old Jefferson.

PROGRESS

A Monthly Magazine for Students and Practitioners of Medicine.

"I HOLD EVERY MAN A DEBTOR TO HIS PROFESSION; FROM THE WHICH AS MEN OF COURSE DO SEEK TO RECEIVE COUN-
TENANCE AND PROFIT, SO OUGHT THEY OF DUTY TO ENDEAVOUR THEMSELVES, BY WAY OF AMENDS, TO BE A HELP AND
ORNAMENT THEREUNTO. THIS IS PERFORMED, IN SOME DEGREE, BY THE HONEST AND LIBERAL PRACTICE OF A PROFES-
SION; WHEN MEN SHALL CARRY A RESPECT NOT TO DESCEND INTO ANY COURSE THAT IS CORRUPT AND UNWORTHY THEREOF,
AND PRESERVE THEMSELVES FREE FROM THE ABUSES WHEREWITH THE SAME PROFESSION IS NOTED TO BE INFECTED; BUT
MUCH MORE IS THIS PERFORMED, IF A MAN BE ABLE TO VISIT AND STRENGTHEN THE ROOTS AND FOUNDATION OF THE
SCIENCE ITSELF; THEREBY NOT ONLY GRACING IT IN REPUTATION AND DIGNITY, BUT ALSO AMPLIFYING IT IN PROFESSION
AND SUBSTANCE."—BACON.

VOL. II.

LOUISVILLE, KY., APRIL, 1888.

No. 10.

GENERAL MEDICINE.

PNEUMONIA OF CHILDREN.

Cerebral Symptoms,
BY

L. EMMETT HOLT,

A. M., M. D.,

*Attending Physician to the
New York Infant
Asylum.*

Medical Record.

Read before the New York
Medical Society, March
28, 1888.

Two points about pneumonia are brought out very prominently in almost every text-book devoted to diseases of children. The first is that disturbances of the central nervous system are much more likely to be met with in young children than

among adults; the second, that these are almost invariably associated with disease of the apex of the lung. My own experience abundantly confirms that of others regarding the first point. Since the second one, however, has been denied by an eminent authority,¹ I have gone over my own clinical records with reference to nervous symptoms, and submit the results in this paper for your consideration.

There existed for analysis one hundred and seventy-three cases, which may be briefly characterized as follows: Seventy-three were lobar pneumonia,² with two deaths; and one hundred, broncho-pneumonia, with a mortality of thirty-four. The sexes in broncho-pneumonia were nearly equal; while in lobar

pneumonia the males predominated, forty-three to thirty. As to age, one hundred and twenty-three patients were two years of age or under, and only thirteen were over five years of age.

Thirty four cases, or twenty per cent. of the whole number presented, decided cerebral symptoms. I have divided these into three groups: Those attended by convulsions, of which there were fourteen; those where delirium was the principal symptom, twelve in number; and the third class, where neither convulsions nor delirium existed, but other symptoms decidedly cerebral in type—of these there were eight cases.

The convulsions of pneumonia differ in no respect from those seen in meningitis or other acute disease. In half of these cases there were a symptom of invasion, in the other half they came on toward the close of the disease. Only one case presented both early and late convulsions. In almost all instances the movements were general, and in by far the larger number they were repeated more than once. Initial convulsions were succeeded by drowsiness or semi-stupor, sometimes a great delirium or great irritability; there being nothing usually in the symptoms to indicate pulmonary disease during the first twenty-four, or even forty-eight hours.

Delirium was rarely seen for the first two or three days. It was most marked at the height of the disease—fourth to the seventh day—and, if intense, generally lasted until the crisis. It varied much in intensity—in

¹ Eustace Smith: Clinical Studies of Diseases of Children, 1887.

² I recognize the fact that many cases are *clinically* lobar which do not give at autopsy the lesions of croupous pneumonia.

the milder forms amounting only to incoherent rambling during sleep; in the severer forms being sometimes low and muttering, like that in typhoid, but more commonly wild and excited, like that of cerebro-spinal meningitis. In this condition some of the patients could, with great difficulty, be kept in bed. In addition to delirium, they had dilated or contracted pupils, involuntary passages of urine and fæces, boring of the head into the pillow, retracted abdomen, sordes on the lips and teeth, muscular twitchings, tremor of the tongue or protrusion, irregular pulse; in short, almost every symptom of cerebro-spinal meningitis.

Other patients have persistent drowsiness or semi-stupor, these occasionally alternating with periods of great irritability or excitement, sometimes terminating in convulsions, simulating very closely tubercular meningitis.

Vomiting I have not included in my analysis among the cerebral symptom, as it is almost a constant symptom in the invasion of pneumonia. Headache was frequent in children to describe their sensations, but as the great majority of my cases were not, I have not included this symptom.

Continued irregular respiration I have not seen, although this has been mentioned by Rillett and Barthez. Nor have I met with the *decubitus en chien de fusil* or gun-hammer position, although cases have been reported by Starr, of Philadelphia, Jenner, of Toronto, and others.

The two classes of symptoms made by the French writers, viz. : eclamptic or convulsive, and the meningeal or delirious, serve very well for the purposes of description, but almost every combination of the symptoms enumerated has been met with.

Diagnosis.—How are these cases to be distinguished from meningitis? is the practical question of most importance in this discussion. First, only by careful and repeated examinations of the chest. And just here I wish to say that there is no sin of omission of which the general practitioner in his care

of children is more often guilty than this. It is something which is often beset with difficulties, no doubt, yet there are very few cases in which, with patience and tact, as satisfactory examination cannot be made of a child's chest as an adult's. I have made it a rule, in cases of acute illness, to make a physical examination of the chest every day until the diagnosis was clear beyond the shadow of a doubt; and I have been surprised over and over again to find in how many cases, obscure and often indefinite symptoms have been found to depend upon pneumonia. Its great frequency in early life lays upon us always the necessity of excluding it, before accepting any other explanation of a persistent high temperature in a child.

The difficulties in the case are much increased by the late appearance of positive physical signs, as in central pneumonia, although the time when they are manifest depends quite as much upon the physician's acuteness of observation as upon the state of the lungs. In my own experience I have found that the number of cases with late physical signs gradually grows smaller year by year.

Cough is usually present, but it is wanting in the first two or three days in a sufficient number of cases to make it of little value in the doubtful, obscure ones.

Activity of the *alæ nasi* may be seen in many other conditions, but it is rarely absent in pneumonia.

Alteration of the pulse-respiration ratio is more important than any other single symptom. Accelerated respiration, out of proportion to pulse and temperature, should always lead us to suspect the lungs, whatever other symptoms are present. Irregular respiration, especially of the Cheyne-Stokes type, is almost never seen in pneumonia.

The slow, irregular or intermittent pulse in meningitis does not occur in pneumonia. Irregularities and intermissions in a rapid pulse are quite common but are of no significance.

It is very rare for the temperature in meningitis, either tubercular or cerebro-spinal, to remain so high as we commonly find it in pneumonia. In fact, Thomas ("Gerharet's Handbuch") asserts that a persistent high temperature almost certainly excludes meningitis. The loss of knee-jerk is the rule in meningitis (Hughlings-Jackson and Angel Money). I am not aware that it has been recorded to be absent in pneumonia and can see no reason why it should not form as valuable a symptom for differential diagnosis of meningitis from pneumonia as it is said to be from typhoid fever.

Localized paralysis are not met with in pneumonia unless there be a complicating disease of the brain.

The cerebral symptoms of pneumonia are commonly less severe and not so continuous as those of meningitis, so that the progress of the case nearly always clears up the diagnosis by the rapid subsidence of the nervous symptoms at the crisis, although we may have been in some doubt up to the time.

Between broncho-pneumonia with cerebral symptoms and pulmonary tuberculosis with a few tubercles in the brain, I quite agree with Jurgensen that a diagnosis may be impossible.

Etiology.—Cerebral symptoms in pneumonia may depend upon complicating meningitis. This is asserted by almost all writers to be exceedingly rare. I have never seen it.

Steiner,¹ Bridge, Lees,² and others have shown that they may arise from suppurative otis media occurring as a complication, but this also must be rare, if we are to believe the writings upon the subject; perhaps not so uncommon, however, as the small number of recorded cases would indicate. I have met with but one instance.

Only one of the fourteen cases of convulsions was over two years of age, so that of one hundred and twenty-three cases two years of age and under, ten per cent. had convulsions. Delirium, on the contrary, was most common between the ages of four

and eight years. Of the fifty cases over two years of age, thirty-three per cent. had delirium.

Temperature: Of thirty-three cases in which this was recorded there was hyperpyrexia in fourteen. In eight of these it reached 106° F., or over. Delirium and stupor were much more commonly associated with very high temperature than were convulsions.

In twelve cases the temperature was about the average for pneumonia (*i. e.*, 102° F. to 104.5° F.), and in six it was below the average.

Constitution: Fourteen children were reported in good health prior to the attack, seventeen were delicate, and one was markedly rachitic. Convulsions were more common in delicate children (nine out of fourteen cases). Of the twelve cases with delirium all but three were previously healthy.

Form of disease: Nineteen were cases of lobar pneumonia, fourteen were broncho-pneumonia, and one was not determined. Early convulsions were most often seen in the lobar form (seven of nine cases), while late convulsions in every instance but one, occurred in broncho-pneumonia. Delirium was seen much more often in the lobar form (nine of the twelve cases).

Location of the disease: The part of the lung affected has been a subject of special investigation, as I wished to ascertain whether these records supported the idea of the intimate association of cerebral symptoms with disease at the apex.³

There were thirty-eight cases of pure apex-pneumonia: Right, twenty-three; left, fifteen. Of these cases seven, or eighteen per cent., had cerebral symptoms; two, delirium; three, convulsions; two, other symptoms.

There were thirty six cases of pure base pneumonia: Right, thirteen; left, twenty-

¹ Jahrb. fur Kinderh., N. F. ii.

² Practitioner, August, 1886.

³ This term will be used synonymously with "upper lobe" in the subsequent discussion. I have found it impossible to draw the line of distinction between them in making up my statistics, nor has it been done by most writers.

three. Of these cases four, or eleven per cent., had cerebral symptoms; two, delirium; one, convulsions; one, other symptoms.

In seventy-three cases there was extensive disease: Both apices in two; both bases in four, and the remainder nearly the whole of one lung or large areas in both lungs were involved. Of these cases twenty, or twenty-seven per cent., had cerebral symptoms; seven, delirium; eight, convulsions; five, other symptoms. In other words, in fifty-six per cent. of the thirty-four cases with cerebral symptoms the lesion was extensive. I have studied these cases with extensive disease a little further. In twenty-one of them the lesion involved either both apices, or the apex and some other part of the lung; seven, or one-third, had cerebral symptoms. In thirty-six cases both bases, or one base and some other part, not the apex, were affected. Of these, twelve, one-third, had cerebral symptoms; a striking agreement with the apex cases.

These figures are not large enough, it is true, to establish the proportion of cases in which cerebral symptoms are met with when the disease is situated in the various parts of the lung, but they are large enough to show very clearly that no such predominance of apex cases exists as we have been led to believe. So far as they show anything, it is that the extent of disease is a far more important factor in producing nervous symptoms than its location.

The great predisposing factor here is to be found in the susceptibility of the nervous system in early life, which is one of the striking peculiarities of the acute pathological processes of infancy and childhood. Sudden impressions by the abrupt development of symptoms, as in lobar pneumonia, are more likely to disturb the nervous centres than those coming on more slowly. Very extensive disease acts in a twofold manner, both by the nervous depression which it induces, and by the interference with hæmatisis, due to a large part of the lung being crippled, so that the blood defi-

cient in oxygen and overcharged with effete products is supplied to the brain and cord.

The fact that high temperature, from any cause whatever, when maintained for any considerable time, will produce marked disturbance in the functions of the brain, is so well known that it scarcely needs to be mentioned here. When we have given the old explanation that these symptoms are due to the effect of the overheated blood upon the brain, we have said about all that is positively known upon the subject.

Prognosis.—The general mortality of the cases here analyzed was twenty-two per cent.; of the thirty-four cerebral cases ten, or thirty per cent., proved fatal. Of eight cases in which convulsions occurred at the onset of the disease only one died. The others were not specially severe. Every case of late convulsions dies within twenty-four hours. One of these cases also had convulsions at the beginning of the pneumonia. Only one of the twelve cases with delirium succumbed. These cases, however, included some of the most severe ones in the series. We may conclude, then, that, excepting late convulsions, the occurrence of cerebral symptoms in pneumonia does not very much increase the danger of the disease.

It will be of interest to compare these cases with those of pneumonia in older children.

In the reports of the Pendlebury Hospital, Manchester, for the years 1881 to 1886, there are tabulated two hundred and thirty-four cases of lobar or croupous pneumonia. The hospital admits children from two to fourteen years of age. The ages of the cases of pneumonia were as follows: Under five years, 67; five to ten years, 121; ten to fourteen years, 46—total, 234. Only three cases are mentioned as proving fatal; two of these had marked delirium. One hundred and forty-two were males, ninety-one females.

Table II., which I have constructed from these reports, shows the proportion of base and apex cases, the number in which there

was extensive disease upon one side, or in which both lungs were affected, together with the number of cases with delirium and convulsions when the disease was situated in the different parts of the lung.

For convenience of comparison I have placed alongside of it, in tabular form, the one hundred and seventy-three cases which have been discussed in the earlier part of this paper (see Table I.).

TABLE I. — 173 Cases of Pneumonia (123 under two years of age).

Location . . .	Apex, 38 R., 13 L., 23	Base, 36 R., 13 L., 23	Extensive dis- ease, 73, (Both apices, 2; both bases, 4.)	Whole number 173
Delirium . . .	2	2	7	12
Convulsions . .	3	1	8	14
Other cerebral symptoms . .	2	1	5	8
Total with cere- bral symp- toms	7	4	20	34
Percentage . .	1	11	27	20

TABLE II.—234 Cases in Older Children (121 between five and ten years of age).

Location . . .	Apex, 61 R., 47 L., 14	Base, 84 R., 29 L., 55	Extensive dis- ease, 89, (Both apices, 4; both bases, 20.)	Whole number 234
Delirium . . .	14	13	28	55
Convulsions . .	.	3	2	5
Total with cere- bral symp- toms	14	16	30	60
Percentage . .	23	19	35	25

In all the five case of convulsions they occurred at the onset of the disease; only one was a severe case and none were fatal.

In looking at these two tables we are struck with the fact that the right apex and the left base are the parts of the lung attacked by preference, these two being involved with nearly equal frequency. The proportion of cases having cerebral symptoms is slightly larger (twenty-five per cent. to twenty) among the older children, a fact which rather surprised me.

We see, however, that with the exception of all the percentages being slightly larger in Table II., there is a striking agreement in the two series of cases. Thus, in both tables the proportion of cerebral cases in those of disease at the apex falls a little below the general proportion. The propor-

tion among apex cases is considerably larger than among the cases, but is far below that among the cases with extensive disease.

We may then safely draw the following deductions :

1. Cerebral symptoms in pneumonia of children are very common.
2. Convulsions belong almost without exception to infancy, being rarely met with after two years. Occurring at the onset, they belong essentially to lobar pneumonia; they do not indicate a bad prognosis, nor even, in most cases, a severe attack. When late convulsions come on, death with twenty-four hours may confidently be predicted.
3. Delirium comes oftenest between the ages of five and eight, usually in conjunction with extensive disease and high temperature. These cases, although severe, with but few exceptions recover.
4. There is no such intimate association between cerebral symptoms and apex disease as has been frequently stated. Such symptoms occur in only about one-fifth of the apex cases.
5. Nervous symptoms occur much more frequently (one-third of the cases) when the disease is extensive and the temperature very high.

It was not my purpose to enter into the subject of the treatment of these symptoms in pneumonia, as I have nothing new to contribute. I wish to emphasize two points which my experience has taught me. The first is that in hyperpyrexia the cold pack is safe, and the most efficient means to reduce the temperature and thus abate the brain-symptoms dependent upon it. The second is the use of antipyrine, not so much for reducing very high temperature—for I think the cold packs are safer than very large doses, and altogether more satisfactory—but to allay restlessness, quiet delirium and cough, and promote sleep. For this purpose, doses of two or three grains are sufficient in an infant of from six to nine months, and double the dose at eighteen months or two years. The dose may be repeated every six or eight hours.

GENERAL SURGERY.

PHIMOSIS--

ECZEMA.

BY

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A clinical lecture reported for PROGRESS.

GENTLEMEN:

You will recognize this little fellow. He is the infant who was before you at our last meeting, the subject of laryngismus - stridulus—a peculiar condition known as the “crowing disease.” I pointed out to you its features and the necessity of a careful differen-

tial diagnosis. It is commonly associated with irritation of dentition, and is quite diagnostic of the rachitic condition.

You will notice that this infant is very fat and appears to be well nourished. There is no evidence of an undue swelling about the groins. The fleshy appearance is not opposed to rachitis although there is absence of other well marked symptoms of that mal-nutrition. The laryngismus is one of those strange conditions known as reflex. Sometimes it may be produced by enlarged bronchial glands.

The father gave us a “pointer” when he said he jumped all over when he micturated. We examined the penis, and as soon as it was touched or handled he had a suffocating spell with the peculiar noise in the throat. I thought it best to eliminate this as a possible cause of the laryngismus and called upon Dr. J. H. Larrabee, your demonstrator, who was present to perform circumscision for me. He did so in your presence, and I now show you the result of the operation three days afterwards. You see that there is entire and complete union of the mucous membrane throughout the incision, and I pull out the delicate threads without even the sign of pus. You saw how careful he was to have it done antiseptically, and being taught in a different school, it seemed to me to be a tedious detail for so simple an operation, but you see

the result, which, if he were here, he would undoubtedly, and I think very properly, claim to be due to his painstaking.

The father reports a marked change in his attacks, and says he makes water now without any wriggling. We shall watch the case with interest to learn if this simple proceeding puts a quietus upon his laryngismus.

I will now call your attention to some cases of skin disease in waiting. Before doing so, however, I will take this opportunity to answer in public what some of you have asked me privately in regard to the advisability of your taking up a specialty when you leave college. The field of medicine is a very large and comprehensive one. It is quite impossible for one person to be entirely proficient in all its branches. The division of general medicine into the various specialties has been fraught with much good to the profession, and no doubt to-day we know many things about the science that otherwise we should never have discovered. While, therefore, I endorse specialties and patronize specialists, I am convinced that both may become an injury rather than a blessing to the community no less than to the profession. Specialism in medicine is not new. It existed in the earlier history of the science and corresponded to periods of greatest learning and culture. When that awful cloud of ashes settled down upon Pompeii and Herculaneum, it blotted from existence a people far advanced in civilization. Excavation has revealed evidence that all the specialties of to-day were practiced there. Specula-uteri auditory, and ocular instruments mark the progress of medical as well as collateral sciences.

It almost makes us shudder when we think that with all our boasted civilization and education we have progressed so little beyond that which was attained by the ancients—that perhaps after all we may be only reproducing or reenacting the scenes of thousands of years ago. Many of our wonderful discoveries of to-day were, no

doubt, perfectly familiar to many of the older nations. We live and move in circles and not in direct lines.

The present is certainly a wonderful age of advancement. Never in the history of the world has there been such a scramble for place and distinction in our medical ranks. The journalist present will tell you that so rapid is the advancement that it is almost impossible to keep up with the literature of the day. Job must have longed for this era when he said, "Oh that my words were now written: oh that they were printed in a book."

It is very probable that when all the new theories have been sifted and all that is written shall be assorted, that a very small book will contain all that is found to be *true*.

It is not in our profession alone that specialists exist. The mechanic and the artisan are specialists. It takes eight men to make a single shoe, neither of whom could make it alone. You know the old saw, that it takes nine tailors to make a man,—and really, I don't know many specialists it would take to make one good doctor.

Seriously, the specialist should be the *out-growth* of a general practitioner—a gradually developed predilection after years of experience—then he becomes a useful man in the community and an ornament to the profession. Any other course than this leads to superficial knowledge.

The youthful specialist is unable to distinguish between a local and constitutional trouble in the full degree of its importance. The children's doctor must know something of skin diseases. It would be impossible to send all such cases to the dermatologist. Dr. Tilbury Fox, the greatest authority on disease of the skin, when asked, on one occasion, what was his specialty, replied laconically, "The skin, and all it contains." When I go abroad to attend medical conventions, I am frequently asked, "What is your specialty?" and when I am forced to acknowledge that I am only a *scrub doctor*, I feel that something has dropped. There's

decidedly too much tendency to exalt the specialist at the expense of the general practitioner.

I see a great many dental students attend these lectures. If you expect to become competent dentists you must also be doctor's in medicine. Again the specialties are well filled. I can only cite you to one not yet occupied. No one has yet made a specialty of the umbilicus, and it is a "*grand opening*." Think of a sign hung out, "Practice limited to diseases of the umbilicus." True, the diseases of this part of the body are few, but with specialists in this line, there is every reason to believe that the number would be greatly multiplied.

Besides, some microscopist has discovered a micro-organism inhabiting this region—and there would be a decided advantage to have a "bug"—a genuine, live "*bacillus umbilicalis*" to start with. So much then by way of apology for trespassing on the rights of the dermatologist.

This is a case of eczema. You will notice that the whole of the external ear, the auditory canal and the side of the head are the seat of eruption. You will find this the most frequent of all the diseases of the skin—constituting, according to some authors one-sixth, and others, one-third, of all diseases.

What, then, is eczema? I might cover the blackboard with the divisions made by dermatologists which would require some time for you to remember. This is for the general practitioner unnecessary. I will call it catarrh of the skin. I think you know something of catarrh as a disease of mucous membranes. This term implies then a close relationship between the outer covering (skin) and the internal lining (mucous membrane) of our bodies. It is a disease of irritation—an accumulation of cells in the papillæ of the skin.

Dermatologists have two methods of making names for the various eczemas, one based upon pathology as where the papillæ

form pustules where by giving up the fluid in the cells, a blister or vesicle occurs, and where fluid exude forming scabs, and also where there is simply an erythematous spot as a red blush, hence the names pustular, vesicular, impetiginosum and rubrum are easily understood. The other nomenclature is from the locality—as labial eczemas, facial eczema, etc., etc.

Mothers bring their children (infants) to the doctor, and they are greatly distressed over the disgusting spectacle which some of them present.

I was in hopes to find a case here which was at my office a few days ago. The glue-like fluid had escaped from the distended papules, and dried in yellow crusts all over the head and face of the infant so that the face and head presented no sound skin at all. The eyes looked like black beans in a pile of scabs, and a fearful odor of decomposing pus filled the apartment. This is the form commonly called “milk crust” by the laity.

It is quite commonly believed that eczema is in some way connected to the constitutional diseases, *i. e.*, scrofula, syphilis, etc., hence the embarrassment with which the cases are presented, and the urgency requested in the cure. This is a great mistake. Eczema has no causal connection with scrofula or syphilis, and is as frequently seen upon healthy as unhealthy infants. Certainly no more robust infants than those before you could be produced, while the one just sent out with simple atrophy shows no eruption.

The infant subject of eczema, if not over-treated, gets well perfectly; no sequelæ remains. These horrid scabs fall off; these fetid crusts, seem to act the part of a coating of manure to the hairy scalp, as the growth of hair afterwards is exceedingly fine and the skin most beautiful, leaving no scars as do the strumous and syphilitic eruptions. The enlargement of the cervical glands and other small glands about the ear and scalp, have no resemblance to the

“King’s Evil” of olden time. They are only the result of over taxation in the struggle to carry off the debris; nothing comes of it and when the disease is done these glands like scavengers go away.

The digestion is frequently better than in other children, and it has been my observation, which has been quite extensive, that infants, the subjects of eczemas exposed more than other children, escape serious catarrhs and internal diseases. The suppression of an eczema is by no means free from danger. You must not lose sight of the relationship between the skin and the internal membranes of the body when it comes to treatment. I have seen too many instances of this kind to make light of the nurse’s notion that “it won’t do to dry it up.” I remember a case not long since in private practice; the infant belonged to a very fine family, who were continually mortified by the appearance of the “darling of the household,” and earnestly besought me to cure it quickly by external means. I explained, and refused to do so. Another physician was called, who began at once with zinc and plaster. I did not know of this until I was one day called in great haste to this family, and found the little one in hard clonic convulsions. The scalp and face, although shining and red, was entirely healed, the fontanelles bulging and open. The almost frantic mother made a hasty explanation, as above, and reminded me of my prediction, which was only too true.

I ordered the head to be smeared with tartar emetic ointment, producing a pustulous eruption which continued some time to the relief of the child, and finally yielded to the growth and admitted of spontaneous cure.

I have reason to believe that the number of cases so killed is large. Eczema is invited by irritation, and its location is thus determined a fact not only characteristic of eczema but of other diseases as well. It is so with the syphilodermata.

The sun’s rays, interigo, accumulation of

filth, and the use of soap, wearing, irritating or rough clothing may be considered among the developing causes of eczema, while the period of eruption of the first teeth is quite certain to be attended by skin eruption of some kind, either papular or vesicular.

In inherited syphilis one or more of the characteristic syphilodermata may be produced by irritation, without which it is probable the latency of the constitutional disease might have remained forever. This is an exceedingly important matter for your consideration when weighing the probability of inherited or acquired syphilis; especially where the first unmistakable manifestation occurs later in life.

If you take a hoe and go into a meadow where the ground is covered with beautiful clover and timothy and dig up a spot here and there, you will soon see the bare places (the soil denuded of its cuticle) thickly studied with various weeds. So in diathetic diseases. Many people have an inheritance of this kind which is always cropping out upon slight provocation.

We are often surprised to find evidence of specific disease, syphilides, in persons who have never had a primary sore. Anti-vaccinationists make great capital out of instances of syphilodermata, accompanying vaccination. Now while I do not doubt that syphilis may be transmitted by careless vaccination, I believe such instances to be of the rarest possible occurrence.

Most of the vaccination done at present is by the bovine virus, under the very erroneous impression that cows have no diseases. Now, the very fact that a syphilide appears either at the site of the inoculation or becomes general during the progress of the vaccination, ought to be sufficient to convince the practitioner that it cannot be due to such introduction as it would require weeks, and perhaps months, for syphilis to appear in the form of an eruption after the vaccination.

The proper solution of these cases is that

the vaccination has awakened a latency of inherited disease by irritation which latency might have continued indefinitely. Benign and malignant growths, tumors, cancers, etc., frequently have their origin in local irritation or injury in constitutions possessing a diathesis of syphilis.

Now a word as to the treatment of eczema. Keep before you the fact already spoken that the disease is not a serious one, and your treatment must not be too active.* Remember, also, the relation between eczema and catarrh of mucous membranes. Remember that, notwithstanding the appearance often disgusting in the extreme, these infants are fat and healthy.

External applications should, if used, consist of sedatives and soothing lotions. Some cases will tolerate ointments; others will be aggravated by any unctuous material. Olive oil and carbolic acid will do for the one, and a starch poultice for the other class. The object of such application being to allay the itching.

A mixture of cold cream with oxide of zinc and resorcin is better; as an absorbent in the impetiginous form as in this case a powder bag filled with starch, camphor and zinc, will be ordered to be dusted over the raw surfaces. The compound talcum powder is also a good application, and I make extensive use of this great convenience in the intertrigo and excoriations of fat children. Soap and water must not be used. Water alone seems to act as an irritant in many cases; you will find some of your cases of eczema doing well until "tub night" comes and then you will have a relapse. The oculists present will, I think, sustain this statement in some of the eczematous diseases of the eye lids. You can always tell when these children have had

*Since this lecture, the author has been informed that the case of "Milk Crust" alluded to as not being at the clinic to get medicine, died in about a week, from convulsions. The mother could speak no English, and misunderstood my remarks to mean that I could not cure it. She employed a physician who treated it by cap and external application.

their heads washed by aggravation of the sore eyes.

Now as to internal treatment—a more important matter. Always commence by giving $\frac{1}{10}$ gr. triturants of calomel several times a day; keep dose up for several days to improve the secretions, and you will in all cases note an improvement in the eczema. Also, follow this by that best tonic to the trophic system of nerves which we possess in medicine, the F. F. V., fresh air, Fowler's solution and Vine Ferri is our F. F. V.

LUPUS.	The pathology of lupus has been so frequently discussed of late, it would seem the question is well nigh settled as to its origin! In the first place, several separate and distinct forms of cutaneous disease are included in the general term. The apple-jelly formation in one type, which was so graphically described by Mr. Jonathan Hutchinson, is portrayed by Gerster as constituting a distinct, peculiar manner, due to the presence of the bacillus tuberculosis. Yet the weight of testimony appears to favor the supposition that it only affords a superior culture ground, in which the bacillus tuberculosis occasionally alights and takes up its habitation. On the other hand, a form of lupus, which has sometimes been called granuloma, may fairly be said to arise from the colonization of the of the bacillus tuberculosis upon an abraded surface of the skin; and while Gerster admits tuberculosis as the only cause of all forms of lupus, it is hardly likely, if this view be correct, that no colonies of the bacillus tuberculosis should be found, but only a fully developed bacillus may be here and there observed in the open wound. Certainly an ulcerative process, due to tuberculous infection, must yield large quantities of the baccillus in various stages of development. An isolated baccillus, found here and there, affords, therefore, no valid testimony of the tuberculous origin of a wound.
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EYE, EAR, AND THROAT.

INSUFFICIENCIES
OF THE
OCULAR
MUSCLES.

BY
CHARLES H. THOMAS,
M. D.
Read to the Philadelphia
County Medical Society
at a Stated Meeting,
March 14, 1888.

The study of disorders of the the ocular muscles in relation to functional nervous diseases has received a strong forward impetus during the past year, chiefly due to the published results of the labors in this direction of Dr. Geo. T. Stevens, of New

York, whose work on "Functional Nervous Diseases," recently published,¹ has challenged special attention, even where it has not met with entire approval.

The subject occupies a standpoint on the line between the two important specialities of ophthalmology and neurology, it takes somewhat from both, and has already by force of circumstances, become in a certain sense a specialty by itself.

The operation and its application have, until recently, remained to a remarkable degree personal in the hands of Dr. Stevens, notwithstanding that for many years he has reported it before medical societies and in the medical journals.²

All this, however, has been recently changed by the publication, within the last year, of his work above referred to, which has brought the method into such prominent notice, as to compel recognition.

Other operators have now entered the field, among whom is Prof. A. L. Ranney, of New York City, who, as a neurological specialist, has reported³ a series of cases of the gravest neuroses successfully treated by the Stevens' method.

Beyond question a point has now been

D. Appleton & Co., New York, 1887.
2 See articles by Dr. George T. Stevens, on "Chorea" (Medical Record, 1876), on "Anomalies of the Ocular Muscles" (Archives of Ophthalmology, June 1877.)
3 "The Treatment of Functional Nervous Diseases by the Relief of Eye Strain," New York Medical Journal, January 7, 188.

reached which shows the subject to be worthy of the most sincere investigation.

What I have to present to-night is, to a certain extent, in the nature of a preliminary report; as my work is necessarily incomplete in some particulars, owing chiefly to the considerable length of time required for observation to arrive at a just estimate of the permanency of the results obtained—especially in the gravest and, therefore, most important cases.

I shall attempt to add little that is new to the presentation of the case as made by Dr. Stevens himself, and I can not hope, in the length of time allotted for its consideration, to make a statement commensurate with its importance, but I have thought it right to rehearse briefly its principal features and to give my own experience in connection therewith, together with a sketch of a few of my own cases; because I have become convinced of the importance of the subject, and also because it has not, heretofore, been brought before this Society,—nor, so far as I can learn, before any other of the medical societies of Philadelphia.

It is now about ten years ago since the operation was first brought to my notice by patients who had been under Dr. Stevens' care. It seemed to me incredible that results such as they claimed were produced in their cases could have been derived from the cause assigned. Again, I questioned the practicability of performing the operation in the definitely graduated manner which was said to be practiced by him. Under these circumstances, and in the absence of better information, my position was for a long time one of earnest opposition to the practice in question.

About three years ago, however, having under my care several cases of muscular asthenopia which I was unable to relieve, though I obtained the advice of several of the best known ophthalmologists, and being freshly reminded of the work of Dr. Stevens by a patient of unusual intelligence and reliability, who reported great relief ob-

tained at his hands, I asked his assistance in the treatment of these cases. He kindly demonstrated to me on patients of his own the practicability of the operation, and I became convinced of its great value. The results obtained were so satisfactory that since that time I have investigated the muscular as thoroughly as the refractive conditions in all cases coming under my care, and have as faithfully undertaken to correct them.

For the discovery of abnormality in any of the straight muscles, their physiological condition, both while at rest and in action, and in all states of the accommodation of the eye must be thoroughly understood. In order that binocular vision may result, the visual lines of both eyes must converge upon the same point, whatever may be the position and distance of the object. It is only under such circumstances that the rays of light are brought to a focus at corresponding points upon both retinae. A slight deviation results in diplopia, constituting strabismus, a subject sufficiently well understood, and to which Stevens's researches do not directly apply. But while there may be perfect binocular vision, and not the slightest indication of strabismus, there may be, nevertheless, grave faults affecting the recti. It is these faults that Dr. Stevens has emphasized, and to these his observations have been chiefly confined.

In the normal condition of the ocular muscles the visual lines of both eyes naturally preserve an almost exactly parallel direction when looking at distant objects; and they maintain such a position of their own accord from muscular tonicity alone without the necessity of any additional stimulus. This can be shown by prismatic tests. The artificial diplopia produced in making the test will be such that the two images will lie in that plane which is at right angles to the base of the prism.¹ If, for example,

¹ Not that Dr. Stevens was by any means the first to employ prisms for the discovery of muscular irregularities, but he appears to have used them with greater precision and by more systematic methods than have heretofore prevailed.

diplopia be induced by a prism placed before either eye with its base directed either outward or inward, the two images will lie in the same *horizontal* plane; and, similarly, *vertical* prisms, with base up or down, will induce diplopia; but in this case the two images will be situated in the same *vertical* plane. The reason for this is because the normal visual lines of both eyes naturally lie in the same *horizontal* and *vertical* planes, even when the powerful stimulus which the need of binocular vision presents is abolished by the prism. Hence, if the eyes in the normal state be directed to a distant object, binocular vision will occur without the need of extra muscular action to bring the visual lines to properly bear upon the object. If, on the other hand, the visual lines, of the two eyes do not naturally take the proper position, one of two things will result, either there will be no effort to bring them into correspondence, and strabismus with attending diplopia occurs, or, *more frequently*, by an extra nervo-muscular effort, called into action by the demand for binocular vision, the proper position will be maintained; just as in facultative hypermetropia accommodation is necessary, even when parallel rays coming from a distinct object are to be brought to a focus upon the retina. From this forced, though it may be involuntary or even unconscious effort to maintain the proper direction of the visual lines, the abnormal conditions under consideration result. We have abundant clinical evidence of the enormous expenditure of nerve force under these circumstances, and of the development of the marked reflex disturbances, which are manifested both in symptoms of irritation and of exhaustion.

Dr. Stevens has¹ introduced a series of terms descriptive of the various abnormalities to which the recti muscles are subject. The word *exophoria* designates simply an

outward tendency of the visual lines, without implying as to which muscle or set of muscles is at fault. The opposite condition, namely, tendency to convergence, is designated by the word *esophoria*, meaning an inward tendency.

If either visual line deviates above its fellow, the fact is expressed by the term *hyperphoria*, right or left, as the case may be, always remembering that the lower image represents the higher-tending visual line. It is to be remarked that the condition of hyperphoria is far more frequently productive of serious reflex disturbances than any other fault, and mainly for the reason that a small amount of deficiency in this direction may, and usually does, involve a considerable proportion of the total coördinating power of the vertical muscles; and this because the power of sursumduction is usually limited to about eight degrees, and that of adduction may be fifty degrees and upward.

The generic term to express any deviation whatever from *orthophoria*, the normal, is *heterophoria*.

Finally, the amount of heterophoria found in any given case is equivalent to and expressed by the degree of the prism required to correct the fault.

In practice, the tests for insufficiency are made by placing prisms before the eyes with their bases in certain definite directions. Lateral diplopia is produced by a prism with base in, vertical diplopia by a prism either up or down. If the lateral diplopia so induced, either image is above the plane of its fellow, we know that the higher image belongs to the eye whose visual line is lowest, to be expressed as hyperphoria of the opposite eye. If, in induced vertical diplopia, either image deviates from the vertical, we have lateral fault—*esophoria* if the diplopia be homonymous, *exophoria* if crossed.

In applying the prism test for the discovery of muscular anomalies it is not sufficient to be content with the results of a single or

¹ "A System of Terms relating to the Conditions of the Ocular Muscles known as 'Insufficiencies,'" by George T. Stevens, M. D., Ph. D. (*New York Medical Journal*, December 4, 1886.)

even several examinations, because we must always bear in mind the possibility of latency—that is to say, like latent hyperopia, the true fault may be concealed or masked. Indeed, as in latent hypermetropia we sometimes have apparent myopia through spasm of the muscle of accommodation, so in actual esophoria an apparent exophoria may be manifest, the result of spasm of the externi, and this is equally true of the other muscles. It is only by a careful consideration of all the circumstances, such as the degrees of abductive and adductive power; and, finally, by the use of temporary correcting prisms for whatever fault may be manifested, and following it up—but not leading it—as it develops, by a new correcting prism until the fault becomes stationary, that we are justified in proceeding to operation. In one obstinate case of exophoria I have several times obtained relaxation of spasm of the interni by a moderate dose of morphia administered hypodermically. But, though the after-results proved the observation under morphia to be expressive of the true condition in this case, there are obvious objections to the use of the drug as a matter of ordinary practice. The discovery of an efficient and safe agent for the relaxation of spasm of the recti muscles is greatly to be desired.

It sometimes happens that muscular anomalies of considerable degree are discovered in connection with refractive faults. By correcting the refractive error first not infrequently the muscular difficulty soon disappears, showing the muscular to have been dependent upon the refractive state. The correction of refractive errors, especially those of a hypermetropia character should always be made before applying the prismatic tests.

Defects of refraction and accommodation are well known as the source of serious reflexes, especially headaches or severe migraine, nausea and dizziness; but it is not so well known that defects of muscular adjustment through faults of the guiding

muscles of the eye produce all these and many more serious results besides.

From Dr. Stevens I quote:¹

“Respecting the importance to be attributed to ocular, refractive, and muscular anomalies, I fear that my views will, for some time to come, continue to be regarded as something more than radical; but I am ready to reaffirm the proposition made years ago, that, among the various elements constituting the neuropathic tendency, these anomalies must be regarded as occupying a pre-eminent position.

“Summing up the experience in this field of work, it is shown that, not in occasional and rare instances only, but in a large proportion of cases of the most redoubtable neuroses, unusual and most salutary results may be anticipated from attention directed to visual troubles.”

Among the neuroses shown in many cases to be dependent upon such troubles, are to be mentioned neuralgia, spinal irritation and neurasthenia, chorea, epilepsy, and mental disorders. Dr. Stevens further says:

“Not only are those painful or irregular conditions usually described as neuroses in great proportion responsive to the relief from ocular tensions, but a great variety of conditions commonly regarded as local affections yield as readily, and prove that with some possible local complications they are, in fact, reflex phenomena. As an instance of this class of trouble, I may mention the fact that in more than a score of cases of extreme dysmenorrhœa—in each of which the periodical suffering has been of intense character, of regular occurrence, and of the full duration of the menstrual life of the patient—the dysmenorrhœa has failed to occur after relief to the tension of a superior or inferior rectus.”

“So far as my experience goes, epilepsy very rarely results from simple conditions. The ocular anomalies in epilepsy are of the

¹ See “Ocular Irritations and Nervous Disorders,” by Dr. George F. Stevens. *N. Y. Med. Journal*, April 16, 1887.

most complicated, and often of the most obscure character. A simple insufficiency may induce headache or other minor manifestations, but the ocular causes of epilepsy are usually of a character most perplexing to the surgeon, and sometimes of a character which cannot be completely remedied. Hence, great patience, and, in certain cases, much time and skill are required to accomplish that which can finally be done. If, in the meantime, the patient and his friends are constantly assured by both lay and professional advisers that his efforts must, of necessity, prove fruitless, he is apt to withdraw from treatment, even while defects which are of greater importance, are known to exist, and which, by continued efforts, might be removed."

Prof. Ranney is authority for the statement that in cases of epilepsy of long duration under treatment directed to ocular difficulties, the affection has been scarcely less tractable than diseases commonly regarded as easily curable.

As furnishing a suggestion as to the possible method of production of epileptic attacks from eye-strain, it is interesting to note some experiments performed several years ago by Drs. Dercum, Parker, and others in the artificial induction of convulsive seizures. They found that it was possible to produce spasms in many persons by the following method:²

"The subject being seated, the tips of the fingers of one or both hands were so placed upon the surface of a table as to give merely a delicate sense of contact — *i. e.*, the fingers were not allowed to rest upon the table, but were maintained, by a constant muscular effort, barely in contact with it. Any other position involving a like effort of constant muscular adjustment was found to be equally efficient. Any one object in the room was now selected, and the mind fixed upon it, or some subject of

thought was taken up and unswervingly followed.

"After the lapse of a variable period of time, extending from a few minutes to an hour, and depending upon individual peculiarities to be noted, . . . the subject was frequently thrown violently to the ground in a general convulsion, preceded by tremors which rapidly became more violent."

"Seizures equalling in violence a general convulsion were by no means induced in all subjects, and were generally the result of experiments repeated many times during the same evening. In the experimentors the convulsions became so easily induced that it was thought advisable to desist for a long period."

The *effort of constant muscular adjustment* here spoken of appears not unlike the condition found in the eyes in cases of insufficiency of the ocular muscles; and it seems not unreasonable to infer that if such strain of the muscles of the forearm would produce results of the kind reported by the authors just named, that the strain upon ill-balanced ocular muscles (which must be continuous during the whole of the time that the eyes are opened) should be productive of even more serious, and, indeed, permanent results.

In the great majority of these cases there is but one satisfactory method of treatment, and that is graduated tenotomy. The operation consists in making a small opening through the conjunctiva, exactly over the insertion of the tendon, when the tendon is seized by extremely fine forceps and divided outwardly in each direction, preserving the extreme outer fibres, or, at least, the reflection of the capsule of tenon, which serves as an auxiliary attachment. Tenotomies for strabismus and so-called partial tenotomies have, of course, long been made, but there are radical differences between these and the operation here described.

The fan-shaped expansion of the tendons of the recti at their points of insertion into the sclerotic are somewhat wider than is

² See "Artificial Induction of Convulsive Seizures," by Drs. F. X. Dercum and A. J. Parker. *Journal of Mental and Nervous Diseases*, October, 1884.

generally supposed, while the elasticity of their edges is an influential factor in determining a favorable result in the purpose of the operation—that is, in bringing about a relaxation which shall be permanent by permitting the divided portion to retract and form a new attachment to the globe further back.

The use of prisms as a means of treatment of marked heterophoria is not to be relied on; as in many cases they are found to be insufficient and disappointing.¹ They, however, have a certain value as means of systematic exercise of the ocular muscles, particularly in the milder cases.

When the correction is made by tenotomy, all that is necessary to be done in a given case should be regarded, in a sense, as one operation, though it may be in several stages and at different periods—as a watch-maker counts the regulating of the watch one operation, though he may be obliged to move the regulator a number of times; or as the correction of an astigmatism is one operation, though it may involve a number of sittings.

In one complicated case I have operated as many as seven times; the first operation nearly two years, and the last a week ago; the net result being an unquestionable gain both in head symptoms, which were at one time alarming, and in the severe asthenopia to which the patient had long been subject. Previous to the operation she had suffered from severe pain in the region of the eyes and in the back of the head, accompanied by general nervous distress of an entirely disabling character. An eminent ophthalmologist declared her to have organic disease at the base of the brain from the appearance of the eye ground. This was about three years ago. To-day this lady assured me

that she felt “wonderfully better,” and expressed her entire satisfaction with the treatment she had received.

It is to be re-emphasized in this connection, as an additional caution, that no operation is ever to be undertaken unless the indications for it are positively made out. From a perfectly plain case, evident to the merest tyro, to one demanding the greatest skill and patience of the most experienced, there is every gradation. Nothing would tend more to bring discredit upon the procedure than premature operations, which might result in such disturbance of the ocular muscles as seriously to cripple binocular vision without in the least alleviating the reflex condition for which the operation was undertaken.

Mrs. G. H. C., referred to me by Dr. W. H. H. Githens, aged thirty-two, married, mother of four children. Has suffered for many years from almost constant severe headache combined with a feeling of drowsiness, the seat of the pain being the brow and vertex. Eyeballs painful, always felt better when the eyes were closed. There is frequently double vision, but no manifest strabismus. General condition markedly neurasthenic. Although there was no error of refraction except a very slight amount of hyperopia shown only under full mydriasis, the patient was unable to use her eyes at any near work, such as reading, sewing, etc., and at all times suffers from extreme intolerance of light. Ophthalmoscopic examination negative.

Muscular tests. The first examination showed an esophoria of nine degrees, which, under the use of partially correcting prisms worn for ten days, developed into settled fault of twenty degrees of esophoria and twenty-eight degrees esophoria in accommodation.

Tenotomy of the left internus relieved all the muscular fault except one degree, which I have allowed to remain. The relief of all symptoms was immediate and complete. The headache, the pain in the eyes, the in-

¹ Since this paper was written a physician of this city—himself an accomplished neurologist—who habitually wears spectacles for the correction of refractive errors and who also suffers from muscular faults, in a conversation with me, said with emphasis, “It is impossible for me to wear prisms. I have tried them thoroughly and know they would drive me crazy.”

tolerance of light, the drowsiness and double vision have all vanished. She is now able (without the aid of glasses) to read and sew as well as any one, and threading a needle, which, previous to the operation, was almost an impossibility for her, is now done with facility. The general health and spirits have improved to a remarkable extent.

The photographs in her case are from untouched negatives, taken under photographic conditions as nearly identical as possible. The first photograph accurately represents her condition at the time of the operation. The strained look of her eyes, and the high condition of nervous tension are in no way exaggerated. The second photograph was taken one week after the operation, though it might, indeed, have been taken a day afterward—the immediate relief was so great. Perhaps no change in her condition is more marked than that of her tone of voice, which, from being high-pitched, nervous, almost wailing in character, has been moderated, mellowed, and vastly improved. The photograph of this case gives a clearer idea than words can do of the change which may be wrought by operation—in her case a single operation.

As additional graphic illustration of what may be accomplished, I pass around a few photogravure proofs belonging to Dr. Stevens, which he has very kindly placed at my disposal.

J. H. W., thoroughly healthy boy, without any nervous symptoms whatever, has been under my oversight since infancy. Except for a chronic tarsal ophthalmia there was nothing to call attention to the eyes. Very slight hypermetropia, for which I had prescribed glasses several years ago. On examination, three months ago there were eleven degrees of esophoria manifest, for which an operation was performed, removing seven degrees of the fault. Two weeks later four degrees additional were manifested; a week later the total manifest esophoria was nine degrees, when a second operation was performed, resulting in the removal of

eight degrees of the nine then existing. A recent examination shows a manifest esophoria of three degrees, being a let-out of two degrees since the last operation.

From the first operation a marked change took place in his facial expression; his eyes, which had previously been almost closed, opened widely, the tarsal ophthalmia showed prompt improvement, and he expressed himself free from a constant struggle to keep the eyes from closing, which he had not recognized as dependent upon any condition of his eyes until after it had been relieved.

I present the patient this evening for the purpose of demonstrating the amount of setback given to the tendon, which, though invisible under ordinary circumstances, may be readily seen, upon causing either eye to be rolled outward, as a vertical line in each eye about two millimetres wide in one and a little less in the other, where the sclerotic is plainly visible through the conjunctiva.

Whether the claim made that the neuro-pathic predisposition is more frequently due to eye strain than to other conditions is fully justified by the facts or not, it is unnecessary at present to determine; seeing that enough is known to make it certain that eye strain from muscular fault is the cause of grave and varied reflex neuroses; and that in these cases carefully graduated tenotomy promises relief; beside there is in such cases always sufficient justification for the sake of the eyes and sight—apart from the nervous condition—for the correction of the fault.

My own experience covers many of these operations, performed for the relief of a variety of conditions, and notwithstanding serious difficulties at times encountered, I have a steadily increasing confidence in the legitimacy and value of the method.

DISCUSSION.

DR. H. F. HANSELL: I would like to ask Dr. Thomas for a more definite statement as to the means of diagnosis. To my mind these are not at all

satisfactory. The recognition and the exact determination of superior and inferior insufficiencies are very difficult, much more so, than of lateral defects.

DR. B. ALEX. RANDALL: I have for years taken great interest in the subject of muscular insufficiency, the more so because I have myself been troubled with a defect of the kind, which Dr. Risley corrected for me ten years ago; and with his kind aid, and independently, I have been studying the matter since. As to diagnosis, much has been written, sometimes pretty wide of the mark; and I cannot see that Dr. Stevens has improved our methods. He has brought forward a very nice set of terms for what we have long known, and he has expressed clear-cut opinions which read well. In the same way, Landolt makes out very pretty graphic charts of cases, and marks out well-defined groups, which are to be treated according to certain rules. But the cases which I meet in practice refuse very often to be included in such categories, and very dissimilar cases afford discouragingly similar charts.

I understand from Dr. Thomas's paper that the estimation of defects is largely made with a distant object, presumably a light at twenty feet. To do this we must know the refraction and the accommodation, and I suppose that these are investigated as a matter of course. But it is not safe to take the accommodation for granted. I can myself change my exophoria to apparent esophoria by the accommodative effort so called; and every patient may as readily do the same.

As to correction by operation, I cannot speak like Dr. Thomas from personal experience. We all know that when a certain degree of error is reached it is necessary to operate, and Dr. Stevens places that point very low. His method of operating is highly praised as a delicate one, but the necessity of dividing the operation into many steps is rather unfortunate. However, if he can thus relieve epilepsy that minor

disadvantage may be overlooked. It may be said in conclusion, that except in pointing out that *hyperphoria* is a frequent cause of perplexing and irregular insufficiencies of the lateral muscles(?), Dr. Stevens has added little to our knowledge of the nature of these affections; that in his claims as to their importance, he has gone much further than the experience of equally competent and diligent investigators has enabled them to confirm him; and that in his operative treatment he has merely developed a refinement of the partial tenotomy long in use, as the only means of correcting without overdoing it, the minute deviations from the perfect balance which he deems worthy of operative interference.

DR. THOMAS: Lack of time prevented me from treating at length in the paper of the points as to diagnosis which have been made the subject of questions. There is a variability, and yet, after all, a certainty in these tests which come as the result of practice and observation. There is an irregularity in the results of the tests from day to day, but after getting the extreme limits of the swing and studying all the circumstances of the case, one is able to strike an average which very fairly represents the error to be corrected. Then a prism is temporarily adjusted to compensate for this error; and thus we make a crucial experiment and are further guided by the effects obtained. A lighted candle at twenty feet, and the dot and line of von Gräfe at reading distance, are *both* to be employed as test objects, and a comparative study should be made of the results obtained—both in the absence and in the presence of accommodation. In this way we frequently get important clues. Sometimes anomalies appear in the action of the lateral muscles comparing the tests at reading distance with those at twenty feet; and when great erraticism of this sort is shown, we may be pretty sure in the majority of cases that we shall in the end find a manifested hyperphoria. Unfortunately, there is no known analogue of the mydriatics which

we can well use in these cases, and yet with great patience and watchfulness we shall usually succeed. My results are hopeful in epilepsy, but my operations are too recent to speak positively of cure.

In reply to a question by Dr. Osler, Dr. Thomas said that he had not as yet met with any case of chorea suitable for the operation.

DISTINCT AND INDISTINCT VISION.

BY

JAMES JURIN,

LONDON.

An appendix to "a com-
pleat system of opticks,
by Robert Smith,
L.L. D., Pro-
fessor of

Astronomy and Experi-
mental Philosophy, at
Cambridge, and
Master of
Mechanicks to his
MAJESTY,"
Cambridge, 1738.

Continued from *March
Progress*, Page 433.

26. I say, 3, that this circle $Cabd$ will be surrounded by an appearance less luminous, and gradually decreasing in light towards its outer extremity.

For around this circle will appear the ring $abdDBA$, and without that ring will appear the *annular penumbra* $ABDFGH$, in the same manner and for the same rea-

sons as in Art. 19, 20.

27. This circle $Cabd$, which is equally luminous in all parts, and brighter than all the rest of the appearance, though not so bright as if seen by *Perfect Vision*, we shall for that reason call the *faint false image*.

From what has been said, it is manifest that if, as before, we call the radius of the *true image*, r , and the *radius of dissipation*, g , the radius of the *faint false image* must be $g-r$, the breadth of the first ring without the *faint false image* will be $g-2r$, the breadth of the second ring, or *annular penumbra* will be g , and the radius of the whole appearance, or of the circle $CFGH$, will be $r+g$, these two last the same as in Art. 20.

And if the *radius of dissipation* ch be increased, the *faint false image* $Cabd$ will increase and approach nearer to the magnitude of the *true image* $CABD$, and thereby the ring $abdDBA$ will grow narrower.

28. If the *radius of dissipation* be equal to the diameter of the *true image*, as in Fig. 12, 13, the *faint false image*, or the circle $Cabd$, whose radius is $g-r$, or $2r-r=r$, will now be equal to and coincide with the *true image* $CABD$. And this image will be equally illuminated in all parts, but each point will have but a quarter part of the light, and the whole image will be but a quarter part as strong as if it had been seen by *Perfect Vision*.

For any point, as c , taken in the extremity of the image $CABD$, Fig. 12, will dissipate its light into the circle $gfhc$, and will receive light only from the circle $ABDC$, which is but a quarter part of the *circle of dissipation*. And another point as c taken in the middle of the image $CABD$, Fig. 13, will likewise dissipate its light into the circle $gfhc$, and will receive light only from the circle $ABDC$, which is just a quarter part of the *circle of dissipation*. The middle therefore, and the extremities of the image $ABDC$ will be equally illuminated, having each a quarter of the light they would have had, had the image been perfectly distinct.

29. The ring $abdDBA$, Fig. 11, whose breadth was $g-2r$, which was comprehended by the circumferences of the *faint false image* and the *true image*, will now vanish by the coincidence of those circumferences.

30. But there will still appear the *annular penumbra*, incompassing the image, which will be fainter than the image, and will gradually grow weaker towards the extremity, till it vanish and decline into nothing. And the breadth of this *annular penumbra* will be equal to the *radius of dissipation*.

For, in Fig. 14, 15, 16, let the circle $ABDC$ represent, as before, the *true image* of the circular object upon the *Retina*, and with the radius CG , composed of CA , the radius of the *true image*, and the *radius of dissipation* added together, draw the circle $GFHC$ concentric with the circle $ABDC$;

then will the ring $G F H D B A$ comprehended between the two circumferences $G F H$ and $A B D$, be equal in breadth to the *radius of dissipation*.

Likewise, from any point of this ring as c , with the radius $c g$ equal to the *radius of dissipation* draw the *circle of dissipation* $c f g h$.

31. Then, I say, 1. this ring will form a *penumbra* fainter than the image.

For the point c will receive light only from the pencils whose centers are situated in the circular segment $f g$. Therefore this point c , and consequently every point in the ring, will be less illuminated than every point within the image; since every point within the image does, as we have already seen, (Art. 28.) receive light from every other point within the image.

32. I say, 2, this *penumbra* will grow gradually fainter towards its outer edge, and at the very extremity will dwindle into nothing.

For, if the point c be gradually removed farther towards the outer edge, as in Fig. 14, 15, it is manifest from the inspection of the figures that the circular segment $f g$, and consequently the light derived from that segment to the point c will gradually diminish; and when the point c arrives at the very extremity of the ring, as in Fig. 16, the segment $f g$ and the light derived from it must vanish into nothing, the *circle of dissipation* then only touching the circle $A B D$.

33. If the *radius of dissipation* exceed the diameter of the *true image*, then to the *true image* will be joined a ring of scattered light, which ring will be illuminated equally with the *true image*, so that the *true image* itself and this ring joined together will form one appearance, or *faint false image*, equally strong in all parts, but of a far less strength than if the image were perfectly distinct. Also round this appearance, or *faint false image*, will be formed an *annular penumbra*, the light of which will gradually diminish towards its outer edge, and at the very extremity will dwindle away into nothing.

For in Fig. 17, 18, 19, let the circle

$A B D c$, as before, represent the *true image* of the circular object upon the *Retina*, and with the radius $C G$, composed of $C A$ the radius of the *true image* and the *radius of dissipation* added together, describe a new circle $F G H C$, concentric with the *true image* $A B D C$. Also with the radius $C h$, equal to the difference between the *radius of dissipation* and the radius of the *true image*, describe a third circle $C a b d$ concentric with the two former.

34. Then I say, first, the ring $A B D d b a$, comprehended between $A B D$ the circumference of the *true image* and the circumference $a b d$, will be equally illuminated with the *true image* $A B C D$.

For let any point as c be taken in the outer edge of this ring, Fig. 17, and with the radius $c o$, equal to the *radius of dissipation*, draw the circle $c o f g h$. This circle must touch the circumference of the *true image* in the point o opposite to c , because $c o$ is the *radius of dissipation*, and $c C$, by the construction, was equal to the difference between that radius and the radius $C o$. The point c , therefore, must receive light from every pencil whose center lies in the *true image* $A B D C$, and must consequently be illuminated equally with any point within the *true image*. Much more must any other point of the ring, situated more inwardly than c , be equally illuminated with any point within the *true image*. Consequently, the whole ring will be equally illuminated with the *true image*, and will form one uniform appearance with it, without any distinction, that is, a *faint false image*, like that described in Art. 23, &c.

35. I say, secondly, this whole appearance, or *faint false image*, composed of the ring $A B D d b a$ and the *true image* $C A B D$ will be of far less strength than the *true image* alone would have been, were it formed by vision, perfectly distinct. For the light of all the pencils belonging to the *true image* would, in the case of *Perfect Vision*, be confined to that image only, whereas now it is scattered through the whole appearance, or

faint false image, composed of the ring and *true image*, and consequently must be much weaker. Besides, a part of this light is farther scattered beyond the ring. For,

36. I say, thirdly, the ring $abdHGF$, comprehended between the two circumferences $abcd$ and HGF , will form a *penumbra* round the *faint false image* above mentioned, which *annular penumbra* will gradually decrease in strength towards its outer edge, till at the very extremity it vanishes to nothing.

For the point c , Fig. 17, at the inner edge of this ring, will be equally luminous with any point in the *true image*, as has been already shown, in Art. 34. And at the point c , Fig. 18, situated in the outer edge of this ring, the light will quite vanish, the circle of dissipation $cfgho$ only touching the *true image* in the point o . Therefore, all the intermediate points of the ring, as c , Fig. 19, must be illuminated with intermediate degrees of light, decreasing towards the outer edge of the ring; that is, the ring will form a *penumbra* decreasing gradually in strength towards the outer edge, and vanishing away at the outer edge itself.

37. From this construction it appears that if, as before, we call the radius of the *true image* a , and the *radius of dissipation* g , the radius of the *faint false image* will be $g-r$, the radius of the whole appearance will be $g+r$, and consequently the breadth of the *annular penumbra* will be $2r$.

38. If the radius of the *true image* be exceeding small in respect of the *radius of dissipation*, the *faint false image*, or the circle $Cabd$, whose radius is $g-r$, Fig. 17, 18, 19, will be very nearly equal to the *circle of dissipation*. Also the breadth of the *annular penumbra* $abdHGF$, whose breadth is $2r$, by Art. 37, will be exceedingly small, so that the whole *penumbra* will be utterly insensible.

39. It may not here be amiss to make one or two general remarks with regard to these *annular penumbrae* of circular objects, when the *radius of dissipation* is given.

1. The *annular penumbra* will be sensible nearer to its outer edge, when the object is brighter than when it is less luminous.

For the light in a given point of the *annular penumbra* will, *cæteris paribus*, be proportional to the luminousness of the object. Therefore, if at a given distance from the outer extremity of the *annular penumbra* of a brighter object, the light is but just strong enough to effect the sense; it will not at all affect us at that same distance, when the object is less luminous.

2. The *annular penumbra* will be sensible nearer to its outer edge, when the object is larger than when it is smaller.

For the light in a given point of the *annular penumbra* will, *cæteris paribus*, be proportional to the circular segment cut off from the *true image* by the *circle of dissipation*, of which the given point is the center. Let, therefore, the point m , in Fig. 5, be taken so near the outer extremity of the *annular penumbra*, as that the light in that point may be but just strong enough to affect the sense. Then will the *circle of dissipation*, belonging to this point m , cut off from the *true image* $ABDC$, a circular segment no , of a given depth; and the light in the point m , will be proportional to that segment no . But if the circular object, or the *true image*, $ABDC$ be diminished, the circular segment no , whose depth is given, will have a less breadth, and consequently a less magnitude. Therefore the light in the point m will not now be strong enough to effect the eye.

40. As the reason of all these *phænomena* is only deduced from this one principle, that a pencil of rays issuing from the object is not collected into a point upon the *Retina*, but occupies a circular space thereon, it is manifest that in all cases where a pencil takes up a circular space upon the *Retina*, the *phænomena* will be the same.

But when an object is too remote for *Perfect Vision*, the rays of a pencil issuing from it will converge to and unite in a point before they arrive at the *Retina*, and by di-

verging from that point will take up a circular space upon the *Retina*.

Therefore, all the above recited *phænomena* may arise from a circular object placed at too great a distance for *Perfect Vision*.

41. Now, the human eye, as we shall have occasion anon particularly to shew, when not too much flatted by age, is only fitted to see distinctly at moderate distances from our bodies, and is not at all accommodated to see objects very remote, though at much less distances than those of the Planets or Fixed Stars, with perfect distinctness. Therefore a Planet or Fixed Star must to our eyes exhibit some of the *phænomena* above mentioned, and it will not be amiss to consider the principal of them.

42. The full moon will appear broader than a circular object subtending an equal angle seen by *Perfect Vision*.

For, by Art. 20, if the circle $ABDC$, Fig. 5, represent the *true image* of the full Moon upon the *Retina*, or the image of a circular object seen by *Perfect Vision*, and subtending an equal angle with the full Moon; without this circle there will appear a *penumbra* represented by the ring $ABDHFG$, which, being added to the circle $ABDC$ will constitute the whole appearance $G F H C$, which is greater than $ABDC$.

43. If the Moon instead of being a globe, were only a plane disk, something scabrous, so as to reflect the light equally every way from every part of it, it would then exhibit all the *phænomena* described in Art. 18, 19, 20.

For instance, if this plane disk were to subtend at the eye an angle of $32'$, and consequently its *true image* $ABDC$, Fig. 2, upon the *Retina* were such as corresponds to an angle of $32'$ subtended by this disk at the eye; and the *radius of dissipation* in a human eye be such as corresponds to an angle of $2'$ subtended at the eye by a very distant object, as I think it generally is, in what are reckoned good eyes, upon viewing

celestial bodies, then by Art. 18, a part of the *true image*, represented by the circle $abdC$, would be brighter than the rest, and the diameter of this part would be $28'$; and by Art. 19, another part of the *true image*, represented by the ring $abdDBA$, $2'$ in breadth, would gradually diminish in brightness till at its outer extremity ABD it had less than half the brightness of the part $abdC$; and this ring by Art. 20, would be surrounded by the *annular penumbra* $ABDHFG$, Fig. 5, likewise 2 minutes in breadth, which from having an equal brightness with the outer edge of the ring within it, would gradually grow weaker towards its outer edge, and there would vanish to nothing; so that the breadth of the whole appearance composed of the *true image* and this *annular penumbra* would be $36'$, except that a little of the outer part of the *annular penumbra* might be too faint to be discerned, and consequently the breadth of the whole appearance might be something less than $36'$.

44. And farther, If the surface of the Moon, although spherical, yet were neither polished nor considerably uneven, but a little scabrous all over, so as to reflect the light equally every way from all parts of it; then this surface ought to reflect light to the eye from every part of it, just in the same manner as the corresponding parts of a plane surface, understood to be likewise a little scabrous, into which the parts of the spherical surface are projected by the eye. Consequently, this scabrous spherical Moon ought to exhibit all the same *phænomena* as the scabrous plane disk of the preceding article.

45. But, in fact, the Moon does not exhibit all these *phænomena*. The middle part does not appear brighter than the limb. On the contrary, the limb of the Moon for a digit or two in breadth appears as bright, if not brighter than the middle. What should be the cause of this appearance, which from our reasoning above seems so little to be expected?

46. This appearance proceeds, as I apprehend, from the two following causes:

1. The middle part of the Moon is in a great measure taken up with the faint resemblance of the human face, which is darker than the other parts, and being likewise more depressed than the rest, is therefore by some philosophers taken for seas in the Moon; but the outer part of the Moon seems to have a much less proportion of those dark parts. This is one reason why the outer part should appear brighter than the middle.

2. Although the outer part of the Moon had an equal proportion of what is taken for sea, with the middle part, yet it must appear brighter than the middle part. For the sea in the middle part lies directly exposed to the eye, and consequently is seen of its full magnitude in proportion to the land; but the seas towards the limb must be either wholly, or in a great part hid from the eye by the prominence of the land, by reason of the convexity of the spherical figure, just as the cliffs of *Dover*, to an eye raised to a great height in the air and viewing them obliquely, might be so projected, as to appear adjoining to those at *Calais*, and by that means to hide the intervening sea; or as the water of a river is hid from an eye placed upon a hill, by the seeming union of its opposite banks.

47. These two causes may have such an effect as to render the limb of the Moon, notwithstanding the dissipation of its light by indistinct vision, yet still considerably stronger than the middle part, where no light is lost by dissipation.

For instance, if the limb by distinct vision be above twice as bright as the middle part, it may, notwithstanding it loses half its light by the dissipation, be still brighter than the middle of the Moon.

48. The second of these causes may give us the reason why the *annular penumbra*, which by our theory ought to encompass the Moon, may decrease very slowly in light towards its outer edge, so as that the

inequality of brightness between its inner and outer part may be less sensible than it would otherwise be.

For, if a point as *c*, Fig: 5, be taken near the inner edge of this *penumbra*, and another point as *m*, be taken near its outer edge, the light thrown upon the first point *c* will bear a much less proportion to the light thrown upon the second point *m*, than the proportion between the circular segments *fh*, *no*, which are cut off from the *true image* *ABDC* by their respective *circles of dissipation* *cfgh*, *mno*, by reason that the segment *no* does in proportion to its magnitude give a greater quantity of light than the segment *fh*.

49. And if to this consideration we add that the outer edge of the *annular penumbra* will have the advantage of having its light heightened by comparison with the adjoining darkness of the sky, it will appear upon the whole, that the degrees of light towards the outer edge of this *penumbra* ought hardly to be sensible.

50. But now another difficulty presents itself. If the Moon appears to our eyes 36' in breadth, when in fact its *true image* is but 32', the ancient astronomers, and those of the moderns likewise, who observed by plain sights, as the noble *Hevelius*, must have made the apparent mean diameter of the Moon much larger than it is found to be by telescopic Sights, that is, by *Perfect* or at least by *Distinct Vision*.

51. I answer that the observations, which are handed down to us from antiquity are probably those of the most skillful and most experienced observers. But those persons, who have been much accustomed to contemplate very remote objects, as must be the case of the most experienced astronomers, have thereby acquired a facility, or habit rather, of so altering the conformation of their eyes, as to see those remote objects much more distinctly than the rest of mankind, who have not been so accustomed, just as those who are much employed in viewing small objects very near, as engraving

ers, painters in miniature &c do thereby acquire the facility and habit of seeing those near and small objects much more distinctly than other persons. We must therefore suppose that though the *radius of dissipation* in viewing the stars or planets be $2'$ in the eyes of the generality of mankind, yet to practical astronomers it may be less than one minute, possibly not above half a minute, and then the diameter of the Moon observed by plain sights will exceed the diameter taken by telescopic sights by about $1'$ only.

52. But farther, it is possible, that the observations of the ancient astronomers, which are handed down to us, are not the product of their younger days, but made when they were grown famous and were advanced in years, at which time, no doubt, some of them might correct the observations they had made when younger. Consequently, their eyes being now somewhat flatted by age, might be thereby the better fitted for seeing distinctly at a great distance; and by this means the *radius of dissipation* would be rendered still less, and their observations would come nearer to the truth. At least that this was the case of *Hévelius*, I shall have occasion anon to shew.

53. In the new Moon of three or four days old, the illuminated part must appear too broad in proportion to the obscure part, and likewise must seem to extend more outwards, or to have a greater diameter than the obscure part.

For, in Frg. 20, let $CABDE$ represent the *true image* of the whole Moon, $ABDIA$ the *true image* of the enlightened part, $AIDEA$ the *true image* of the obscure part, abd the outer edge of the *false image* of the obscure part, FGH the outer edge of the *annular penumbra* of the whole Moon, $LGMKL$, the whole appearance of the enlightened part consisting of the *true image* and the *penumbra* added to it.

54. Then this whole appearance of the illuminated part is manifestly too broad in proportion to the obscure part, for as much

as to the *true image* of the illuminated part is added not only the *annular penumbra* $LGMDBAL$ on the outside, whose breadth BG is equal to the *radius of dissipation*, but also a like *penumbra* on the inside of the same breadth, $LKM DIAL$; whereas the obscure part is lessened by the space which this last *penumbra* takes up.

55. Likewise, as by Art. 19, 20, the light of the obscure part diminishes outwards from the edge of the *false image* abd , it can hardly be visible much more outwardly than that edge, especially where it is contiguous to the stronger light of the cusps. Consequently, it must appear of a less diameter than the illuminated part, the stronger light of which is sensible farther outward.

56. For the same reason as the illuminated part of the New Moon appears too broad in proportion to the obscure part; in an eclipse of the Sun or Moon the bright part must appear too broad in proportion to the dark part, or the eclipse must appear less than it really is. Conformable to this is the observation of our famous countryman Mr. ^a Horrox. *Nudi oculi defectum semper justo minorem exhibent: at Telescopium veram exhibet tum defectus tum diametri lunaris quantitatem.*

That the effect we have been speaking of, arises from the cause here assigned, and not from the principle that has sometimes been made use of to account for such like *phænomena*, viz.: that a light object affects the *Retina* to a greater distance than a dark one, will plainly appear by the following experiment:

Let a representation of the new Moon, Fig. 21, or the circle in Fig. 22, half black, half white, be viewed at a distance proper for *Perfect Vision*, and these two figures will appear in their just proportion. Then let them be viewed at a distance too small for *Perfect Vision*, and the light part will appear to intrench upon the dark part, and likewise to extend outward beyond the dark part. Afterwards, let them be removed to a dis-

^a Venus in fole visa. Cap. xvi.

tance too great for *Perfect Vision*, which is easily done by a shortsighted person, or by one longsighted, by applying a convex-glass to his eye, and the white part will intrench upon the dark part, and will extend outwards beyond the dark part.

N. B. To make this experiment succeed clearly, the figure must not be bounded with a black line, as is here represented, but the whole circle must be cut in white paper, the dark part blackened with ink, or a black lead pencil, and the paper laid on a blacker ground.

57. The other Planets, which by reason of their greater distance appear much smaller than the Moon, will appear fainter but much larger by indistinct than by *Perfect Vision*. and their diameters will appear enlarged in a much greater proportion than that of the Moon.

1. For instance, if the apparent diameter of *Jupiter*, at his mean distance from the earth, be about $38''$ when seen by *Perfect Vision*; and in seeing him indistinctly the *radius of dissipation* be $2'$, or $120''$, as was before supposed; then by Art 37, the circle *ABDC*, Fig. 17, which represents the *true image* of *Jupiter*, or the image of *Jupiter* upon the *Retina* when he is seen by *Perfect Vision*, will be $38''$ in diameter; and the diameter of the *faint false image*, *Cabd*, equally bright in all parts, will be $202''$, that is, above five times the diameter of the image of *Jupiter* seen by *Perfect Vision*; and also, around this *faint false image* of *Jupiter* there will be an *annular penumbra* represented by the *annulus abdHGF*, of $38''$ in breadth, which *annulus* being added to the *faint false image* already mentioned, will give $278''$, or $4'$, $38''$ for the breadth of the whole phenomenon, that is, above seven times the diameter of the image of *Jupiter* seen by *Perfect Vision*. But of this something must be abated, because the *annular penumbra* cannot be sensible to its very extremity; by Art. 29, the image of *Jupiter* being much smaller than that of the Moon.

2. If the apparent diameter of *Mars*,

at his mean distance from the earth, be $6''$ when seen by *Perfect Vision*, the breadth of the *faint false image*, equally bright in all parts, will be $234''$, that is 39 times the diameter of *Mars* seen by *Perfect Vision*.

3. If the apparent diameter of *Venus*, at her mean distance from the earth be $18'$, the breadth of the *faint false image*, equally bright in all parts, will be $222''$, that is above 12 times the diameter of *Venus* seen by *Perfect Vision*.

By this means therefore we may account for the *radii adventitii*, which Mr.^a Horrox says imposed so far upon all the astronomers before him, as to make them think the apparent diameters of the planets 9 or 10 times bigger than they really are.

58. When any of these lesser planets is at the greatest distance from the earth, and consequently has the least apparent diameter, seen by *Perfect Vision*, its *faint false image* is the largest. For, by Art. 37, the diameter of the *faint false image* is $2g - 2r$. But when the apparent diameter is the least, the image of that diameter, or $2r$, is the least, and $2g$ is a constant quantity; therefore $2g - 2r$ is then greatest, or the diameter of the *faint false image* is then greatest.

59. When the apparent diameter of a planet seen by *Perfect Vision* is greatly altered in magnitude between the least and mean distance of the planet from the earth, the change in its apparent magnitude seen by indistinct vision may be inconsiderable.

1. For instance, let us suppose the mean distance of *Jupiter* from the earth, to bear to his least distance the proportion of 5 to 4. This will make a change in the apparent diameter of *Jupiter* seen by *Perfect Vision*, from $38''$ to $48''$ nearly; and this addition of $10''$ to $38''$ is very considerable, being a quarter part. But the diameter of the *faint false image* of *Jupiter*, by Art. 37, at his mean distance is $202''$, and at his least distance is $192''$ the difference being $\frac{1}{19}$ part only. And the diameters of the whole ap-

pearance of *Jupiter*, taking in the *annular penumbra*, are at those distances $278''$, and $288''$, respectively, the difference between which is only $\frac{1}{8}$ part.

2. If the mean distance of *Mars* from the earth bear to his least distance the proportion of 3 to one, and the apparent diameter of *Mars* at his mean distance be $6''$, his apparent diameter at his nearest distance will be three times as much, or $18''$. But the diameter of the *faint false image* of *Mars* at his mean distance will, by Art. 37, be $234''$, and at the least distance will be $222''$, the difference between them being only $12''$ in $222''$ which is less than $\frac{1}{18}$ part.

60. When *Mars* by *Perfect Vision* would appear gibbous, and *Venus* by *Perfect Vision* would appear gibbous, or dichotomised, or horned, the appearance of these planets by indistinct vision will be much the same as if their whole disks were illuminated.

For instance, when *Venus* at her mean distance from the earth is dichotomised, her *faint false image* will be an oval tranverse to the line of dichotomy, whose shortest diameter will be $2g-2r$, that is $240''-18''$, or $222''$; and the longest diameter will be $2g+2r$, that is $240''+9''$, or $231''$, as may easily be collected from Art. 37. And when *Venus* is a crescent ever so narrow, this longest diameter must be something less than $240''$. But the difference of $9''$, or $18''$, in $222''$ is less than $\frac{1}{24}$, or $\frac{1}{12}$ part. And an oval whose transverse diameters are 11 and 12, can hardly be distinguished from a perfect circle, especially when very small.

61. A fixed star appears to the eye under such an angle as answers to the diameter of the *circle of dissipation*.

For by Art. 37, the diameter of the *faint false image* of a star is $2g-2r$.

But by the observations of the best astronomers, the apparent diameter of the brightest fixed stars is so exceedingly small, that even in looking through the longest telescope no estimate can be made of its

magnitude, the stars appearing only as lucid points. Therefore, neglecting the apparent diameter of the star, or the diameter of the *true image*, $2r$, the diameter of the *faint false image* which is equally bright in all parts, or $2g-2r$, Art. 37, will be very nearly $2g$.

62. The *faint false image* of a star, or the appearance of a star to the eye, is attended with no sensible *penumbra*.

For by Art. 37 the diameter of the whole appearance of a circular object in the eye, taking in the *annular penumbra* surrounding it, is $2g+2r$, and the breadth of the *annular penumbra* is $2r$. But by reason of the exceeding smallness of the apparent diameter of a star, $2r$, the *annular penumbra* surrounding it will be utterly insensible, and the whole appearance in the eye will to our sense be the same as that of the *faint false image*, whose diameter we have shown to be the same with that of the *circle of dissipation*.

63. The distance between two stars will appear to the eye less than it really is, by twice the *radius of dissipation*.

Let the two circles $c f g h$, $m n o p$, Fig. 23, whose radii $c f$, $m n$ are severally equal to the *radius of dissipation*, Art. 61, represent the images of two stars upon the *Retina*; let the line $f n$ represent the distance between those images and the line $e m$ the distance between their centers. Then it is plain that the apparent distance $f n$ will be less than $c m$ the distance between the centers of the two stars, by $c f$ and $m n$ added together, that is by twice the *radius of dissipation*.

From this it evidently follows, that when the distance between two stars is not more than twice the *radius of dissipation*, the two stars must appear contiguous.

64. If the distance between two stars be less than twice the *radius of dissipation*, the two stars will appear to the eye as one star, brighter than either of the two taken alone.

(TO BE CONTINUED.)

OBSTETRICS AND GYNÆCOLOGY.

RETROVERSIO

UTERI.

BY

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of Chicago.

*A Clinical Lecture delivered at St. Luke's Hospital**Journal of the A. M. Association.*

GENTLEMEN:—Until recently the treatment of retroversion of the uterus had been a standing reproach to gynecology. An inspection of older hospital reports will show plenty of cures of almost every other non-malignant ailment, but

scarcely ever a cure for chronic retroversion. Retroversion pessaries of various kinds and modifications follow each other like the waves of an unquiet sea, and disappear without bringing any cure with them. Now, however, since operative gynecology has taken the subject in hand, incurable cases are fast becoming the exception.

Operative procedures are of two kinds: those for the purpose of restoring the uterus to a natural condition, and those for restoring the uterine supports to their natural functions. It is to the latter class of operations that I wish to call your attention, supposing that the uterus itself has already received appropriate treatment.

The uterine supports may be divided into three classes, the pelvic roof or sustaining, the pelvic floor or retaining, and the perineum or supplementary. The expansion and duplicature of the perineum over the pelvic organs form, with these organs and their surrounding connective tissue, the pelvic roof. When speaking of them as uterine supports, we divide them into five portions; the broad ligaments extending across the pelvis from side to side and including the uterus in their embrace; the sacro-uterine ligaments, extending from the posterior surfaces of the broad ligaments and uterus near the junction of the body and cervix, around the rectum to the upper and middle sacral regions, and suspending the cervix a trifle back of the axis of the superior straight;

the pubo-vesico-uterine ligament, extending from the pubes to and around the bladder and cervix, and holding the cervix away from the sacrum; and the round ligaments extending from the uterine horns or shoulders like long, narrow, curved arms, forward into the inguinal canals. The function of the last mentioned ligaments is to keep (or return) the fundus in front of the axis of the superior straight, so that the abdominal pressure will bear upon the posterior surface of the uterus. All of these tissues suspend the uterus in the centre of the pelvis with the fundus in front of the axis of the superior straight, and the external os somewhat behind it. When the body is in a state of rest these elastic supports easily sustain the weight of the uterus, and that of the superincumbent abdominal viscera, which are also suspended and bear but slightly upon it. During muscular action, however, the abdominal pressure bears upon the posterior surface of the uterus and forces the anterior wall of the whole uterus downward toward the pelvic outlet. The resistance of the sacro-uterine ligaments tends to hold the cervix up from the coccyx and favors a rotation of the external os backward toward the sacrum as the fundus is pressed down. Thus we see that even when the uterine ligaments are not strong enough to resist this abdominal pressure they normally direct the lower end of the uterus back upon the pelvic floor and the upper end forward upon the firm pubo-vesico-uterine septum.

The pelvic floor or retaining support is made up of the lower end of the sacrum, the coccyx, and the coccygeo-anal ligament in the median line; by the ischial bones and obturator internus muscles laterally; between these points by the sacro-sciatic ligaments, pyriformis, coccygeus, levator ani and levator vagina muscles, the levator and recto-vesical fasciæ, and lower down by the connective tissue padding of the ischio-rectal fossa, the gluteal muscles, etc. These structures form a firm floor capable of sup-

porting the uterus when borne against it by any pressure to which it is liable.

The perineum, supplementary uterine support occupies the space between the pubic rami in front of the anus and extends in the median line back along the coccygeo-anal ligament to the coccyx. It is made up of the recto-vesical fascia and levator vaginæ, or vaginal sphincter, supported by it; the perineal septum or triangular ligament containing the constrictor urethræ; the perineal fascia containing the constrictor cunni or vulval sphincter and the transversus perinei, and by the sphincter ani with its facial coverings. The perineum forms a barrier across and just below the pelvic outlet or space between the levator ani behind and the pubes in front. It is firm enough to act as a support to the viscera which penetrate it and terminate in it, and at the same time is sufficiently elastic to allow the visceral contents and fruits of parturition to pass through it. It supports the uterus indirectly by supporting the parts in front of and below it.

In every complete retroversion of a normal sized uterus the external os lies in front and the fundus behind the axis of the superior straight; in slighter forms the displacement is the same in kind but less in degree. Hence our operations must either assist in holding the cervix back of the axis of the superior straight, or the fundus in front of it.

For holding the fundus forward two operations have been performed, viz. : (1) stitching the fundus uteri or its appendages forward against or near the abdominal walls or bladder, and (2) shortening the round ligaments. The former, first done by Kœberlé, requires that the abdominal cavity be opened, and is seldom justifiable except as secondary to a laparotomy for another purpose. We can usually employ other equally efficient and less hazardous means. The operation for shortening the round ligaments was conceived, successfully performed and established as a therapeutic measure by W. Alexander, of Liverpool, in face of almost

universal opposition. The most telling objections against the operation were that it was difficult to perform (an exceedingly puerile one), and that it was unscientific to operate upon the round ligaments because the sacro-uterine ligaments were the chief ones at fault. The latter objection is rendered untenable by the fact that when we draw the fundus forward we restore the normal direction of the uterine axis with reference to abdominal pressure although the whole uterus may be a trifle forward of its natural location, and by the fact that after the os is rotated backward the sacro-uterine ligaments tend to retract, and regain their supporting function. I would like to remind you here that the traction of the shortened round ligaments are not antagonized by abdominal pressure, but turn the fundus so that abdominal pressure assists them.

This patient has a flexible uterus and a relaxed state of the sacro-uterine and broad ligaments, allowing the cervix to turn forward and upward against the vesico-vaginal septum and the fundus to become wedged in the cul-de-sac of Douglas. Failures in fitting pessaries by myself, and afterwards by another gynecologist, and a persistence of distress, inability to attend to her duties and hysterical symptoms, in spite of local and general treatment, have influenced me to perform Alexander's operation.

As you see, she is a young, well-developed, somewhat muscular woman, without any superabundance of fat. The ligaments should be of good size and easily found. I begin my incision over the pubic spine and extend it for an inch and a half outward along the upper edge of Poupart's ligament. One cut brings us through the skin, another through a stratum of fat down to the deep layer of the superficial fascia. I have struck the external pubic artery on the inner side of the incision and the superficial epigastric on the other, both of which in this case are so large as to require catgut ligatures. Below this deep layer of superficial fascia we seldom find blood-vessels of any

size. Another cut brings us down upon the external ring which is easily felt by the finger end as a long, narrow depression along the upper edge of Poupart's ligament, and near the pubic spine. With a probe-pointed fascia scissors I now cut all the tissues to the entire extent of the incision, introduce these small tracheotomy retractors, and have a clear, bloodless field for work. An incision is now made from the pubic spine along the upper edge of Poupart's ligament right over the inguinal ring and as far as the depression is felt to extend. A slight bulging of fatty tissue shows that the inguinal canal is open. I seek for the ligament at the junction of the pubic spine and Poupart's ligament, and by looking carefully can see a delicate white nerve filament running over some pinkish, slightly striated tissue. I cut the nerve, which is the genital branch of the genito-crural, and take up the tissue under it with the forceps, being sure to keep near to the pubic spine and Poupart's ligament. The thin fascia connecting it with the inferior external pillar is punctured by my broad hook and as the tissues are held up the fascia snipped toward the inguinal canal. The ligament is now free from the ring and can be recognized with ease for it is a large muscular one. By means of the hook I pull gently upon the ligament, separate the surrounding connective tissue, which forms a very loose sheath containing here and there aponeurotic bands that require section with the scissors. The ligament is strong, however, grows larger as it passes up the canal, and the connective tissue looser and more easily separated. Pulled again, the ligament slips gradually out of the canal, drawing an inverted portion of the peritoneal covering with it. The ligament may now be said to run. I now drop it, introduce a small clean sponge into the incision, and cut for the other. On this side I make the incision a little shorter—meet with no arteries—and succeed as easily as before in making the ligament run. While Dr. Hoag replaces the uterus with a

sound, I strip the inverted peritoneal sheath back and, the uterus being replaced, I pull on both ligaments until the sound in the uterus is felt to move. While Dr. Foulks holds the left one I will take three sutures with fine silkworm-gut through each edge of the ring and the round ligament as thus pulled out, and approximate loosely both edges of the ring to the ligament. I now cut off the projecting loop of the ligament and fasten the free end to the connective tissue at its normal pubic attachment. A few drachms of 1 per cent. carbolized water, injected into the ring under the ligament cleanses the inguinal canal. A small perforated rubber drainage tube, which I also slip under the ligament well into the canal, will prevent an accumulation of the bloody serum which is apt to be poured out freely during the first few hours. Using silkworm-gut for the external stitches, I carry the one nearest the pubic end of the incision through the round ligament. Having treated the left side similarly, we sprinkle a few grains of iodoform in each wound, tie the external stitches and lay one of these pieces of lint dipped in a 10 per cent. solution of carbolized glycerine over each wound. Before removing the uterine probe I slip an Albert Smith hard rubber pessary over it and into position. As the patient will now wear it with comfort I will leave it for six or eight months, or until a permanent readjustment of the tissues will have taken place. The nurse will put a little absorbent cotton over and around the dressing and fix it all in place by a double T bandage. She will change the dressings as often as saturated by the discharges.

The after treatment is based upon ordinary surgical principles. In from twelve to eighteen hours I shall inject some more of the carbolized water into the drainage tubes until it comes out clear. In for twenty-four to thirty hours I shall remove the tubes, wash out the drainage holes, sprinkle iodoform over all the stitches, and then cover them with pads of iodoform gauze. In this

way all bloody serum is removed and primary union under a dry dressing secured. External sutures are removed in eight days.

We have here another patient in whom the operation will undoubtedly present more difficulties. She had some pelvic inflammation after the birth of her child about two and a half years ago, and, although apparently cured, has some faintly palpable peritoneal and cellular indurations and contractions about the broad ligaments. A slightly bluish hue of the cervix is one of the indications of such trouble, and is a condition that should lead us, before performing Alexander's operation, to examine the patient under ether, and then determine whether the adhesions and contractions might not be such as render a complete and unhampered replacement impossible. In this case the fundus can be laid flat over the bladder, but less easily than in the other case. However, as pessaries do not hold the uterus in good position, and as there are no direct adhesions to prevent the shortened round ligaments acting, we will perform Alexander's operation as the most likely treatment to relieve her in the end. I have operated in a few such cases and have found that a readjustment and relief has finally occurred. She is a little fleshier than the first patient, but is rather deficient in muscular development, hence, I expect to find a smaller ligament and a greater abundance of connective tissue, and to have some difficulty in making the ligament run.

My incision, as you see, is only about an inch long and, not reaching the arteries on either side, scarcely bleeds at all. We are now upon the deep layer of superficial fascia, and I will illustrate a mistake often made, that prevents the ligament being found. We are told that when the inguinal ring is opened we may know it by the springing up of the fat. I now make an incision over the ring about half an inch long, and the fat between the deep layer of the superficial fascia and the abdominal muscles, bulges up as if from the ring. You

may hunt about in this supposed ring for hours, as others have done, and not find any ligament. We now cut through this deeper layer of fat by a free stroke, and come upon a coarse fibred fascia that shows no trace of an inguinal ring either to the sight or touch, for the firmness of the fascia prevents us from feeling any depression over the ring, and the relaxed, empty condition of the bowels takes away that soft fullness that is sometimes observed. Feeling about again I at last find a depression, and did I not know my landmarks well, I would cut down into it, and perhaps search for an hour—it is a depression filled with fat just below Poupart's ligament. We must, therefore, in this case disregard depressions and cut down upon unmistakable unvariable landmarks. I place my knife just external to the pubic spine and cut through the fascia along the upper edge of Poupart's ligament, for the ring must be here. I am through, but I see no round ligament, only fat and connective tissue. Picking away a little fat I cannot be certain what I see. If I now make the mistake of poking about in the inguinal canal, I will disorganize the tissues so that I may not be able to recognize anything.

Remembering that the ligament is attached to the anterior surface of the pubes near the spine, and also to the external ring, I carefully take up the tissues that lie against the upper edge of Poupart's ligament near the spine, perforate the thin fascia stretched between the tissue raised and the external pillar with my broad hook, and feel confident that I hold the round ligament. I dissect off the fascia underneath, pull off the connective tissue fibres at the sides and above, but still cannot recognize the ligament. The tissue remaining on my hook is somewhat ragged, seemingly too small, and, although I have separated this tissue quite deep into the ring, it will not pull out nor run. If I pull any harder it may break, in fact is already stretching. Now there are a few characteristics of the round ligament and its at-

tachments that will enable me to determine whether to go ahead with this or to take up one of the other similar looking tissues. If this is an aponeurotic edge its separation from its surroundings must be followed by hemorrhage—but the separation of this is almost bloodless; the aponeuroses when put upon the stretch come to a sudden stop, and, if pulled harder, break — while this gives an elastic resistance when pulled, and stretches before breaking; when an aponeurotic edge is pulled toward the inguinal canal, and from the pubes it shows its attachment to be at one of the pillars or under them—while this, when thus pulled, shows its attachment to be out upon the pubic bone near the spine. I am therefore sure that I have the ligament, although it is so small and has so spread itself before reaching the pubic bone that but little of it is left. Introducing my finger deep into the canal I boldly separate the ligament as far as the internal ring, and have the satisfaction of seeing it pull out slightly, become a little larger and easily recognizeable. But I cannot bring out the peritoneal sheath as in the other case, and must separate very slowly with my finger in the canal. It now runs, as you see, but not so well as the other, and is about one-half the diameter.

The mistake that has often been made in such cases as this is that the ligament has been gradually stretched out instead of drawn out. When there is difficulty it is better to enlarge the opening of the ring, and get into the canal where the ligament grows larger instead of smaller, as it would if merely stretched. You will notice that I have the same condition of affairs on the other side. The uterus being replaced, I finally succeed in moving the uterine probe by pulling on the ligaments. The difficulties are over, and I proceed to attach the ligaments and complete the operation as before. We will leave the pessary for eight or ten months.

A little reaction may be expected from the disturbance and stretching of peritoneal in-

ductions and contractions, and possibly a dose of morphia will be required when she recovers from the anæsthetic. The pessary is left for the purpose of keeping the cervix back of the pelvic axis until the round ligaments are healed in their new relationship, and until the sacro-uterine ligaments will have time to contract as much as may be. If, after two or three months there should be any tendency to a sagging forward of the cervix toward the relaxed pelvic outlet, we will raise the posterior vaginal wall by denuding and drawing up the tissues along the posterior sulci, somewhat after Freund's perineorrhaphy or Martin's *elytrorrhaphia duplex lateralis*. Thus the fundus will not only be held forward but the cervix upward and backward, and the retroversion be permanently cured.

MEDICATED

SOAPS.

The question of medicated soaps is one which has been agitated chiefly by dealers. In Dr. Shoemaker's recent work on skin diseases, three pages of his formulary are devoted to medicated soaps, among the rare forms of which may be mentioned, iodine soap, ergot soap, naphthol-sulphur soap, balsam soap, salicylic-acid soap, corrosive-sublimate soap, sulphur soap, tannin soap, turpentine soap, witch-hazel soap. It is presumed the importance thus given to medicated soaps will lead manufacturers to attempt supplying the demand thus created; and it may, after all, become fashionable to use medicated soaps, which, although they may have but little therapeutic value, cannot fail to prove beneficial from a sanitary stand-point. To popularize soap with certain literary people, whose mental occupation seems altogether too absorbing to permit any attention to bathing, cannot fail, not only to accomplish much good, by way of advancing the science of personal hygiene, but it will greatly diminish the repulsive features of a number of otherwise very excellent people. What a great pity Von Hebra, of Vienna, did not take kindly to this method of treating skin diseases, and thus do away with the general impression that he opposed soap in every way.

PATHOLOGY AND HYGIENE.

THE MICRO-
ORGANISMS
OF MALARIA.BY
M. R. JAMES,
M. D.,
NEW YORK.Read at a meeting of the
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The attempts to discover the cause of malarial disease are of considerable historical interest. From earliest times the existence of a contagium vivum has been generally assumed, by reason of the peculiar clinical features of the

disease itself. Up to 1879 most of the hypothesis that were offered assumed that some one of the fresh-water algæ was the exciting cause. These observations were never confirmed, and obtained but little belief.

In 1879, Klebs and Tommasi-Crudeli isolated from the soil of the Roman Campagna a bacillus which they believed to be the cause of the malarial diseases existing in that neighborhood. They obtained pure cultures of the organism, and stated that injection of these cultures into these rabbits was followed by typical intermittent fever, with organic lesion similar to those found in persons dying of malarial disease. They gave to the organism the name bacillus malarix. Their results were not confirmed by subsequent observers. It is now generally believed that the so-called bacillus malarix has no connection with the disease. Yet, until Laveran published his so-called plasmodium malarix, the work of Klebs and Tommasi-Crudeli was the most important attempt that had been made to discover the definite cause of intermittent fever.

The first work on the plasmodium malarix was published in 1881 by Laveran, a French army-surgeon in Algiers. He discovered and described, in the blood of his cases, certain appearances that had never previously been noted. He offered a new interpretation of other phenomena that had long been recognized in malarial blood, but not before explained. To account for all the phenom-

ena observed, he assumed the presence in the blood of a parasite, a polymorphic organism belonging to the animal kingdom.

Since Laveran's paper, much work has been done on this subject, though not a great deal has been accomplished beyond a confirmation of statements. In Italy, Marchiafava and Celli have devoted much time to the study of this question. In this country, Councilman and Osler have studied it most. At present, our knowledge of the organism may be briefly summed up as follows: In the blood of persons suffering from malarial disease there is a series of phenomena not yet found under any other conditions. These phenomena point to the presence of an animal parasite. The appearances that we get are one or more of the following:

First.—Colorless protoplasmic bodies inside the red blood-corpuscles. They vary in size from one-fifth to almost the whole diameter of the corpuscle. They exhibit active amœboid movements. Some contain scattered granules of brownish-black pigment; others are unpigmented. The red corpuscle which contain the amœboid body is commonly larger, flatter, and paler than normal.

Second.—We find disk-shaped bodies of colorless protoplasm. They are somewhat larger than a red blood-corpuscle. They show no amœboid movements. They contain scattered pigment-granules. They are apparently a larger stage of the form first mentioned, which has come to occupy the entire corpuscle, and has then entered upon a cyst stage.

Third.—We find forms similar to the cysts, but in which the pigment-granules have become massed at the centre, while the protoplasm is undergoing segmentation. Then there are found various stages in the transition from the encysted to the segmentary form.

Fourth.—We have the small masses of protoplasm that have resulted from the segmentation of the cyst form. They are com-

monly somewhat oval in shape. In fresh blood it is difficult or impossible to distinguish them from blood-plaques. In dried blood they show a tolerably characteristic bipolar staining with aniline dyes.

Fifth.—We have hyaline bodies of crescentic shape, in length rather more than the diameter of a red blood-cell. They have, in every case, a collection of pigment-granules in their centre. These are the so-called “crescentic bodies.”

In some cases there are found bodies resembling the crescents closely in character, but elliptical or round. The crescents may have a delicate curved outline opposite the concavity or convexity, or both, but this outline never reaches quite to the tips of the crescent.

Lastly, there are the various motile bodies. These are: First, flagellated bodies. A round or pear-shaped body, about one-half the diameter of a red blood-cell. It contains pigment-granules, and is provided with from one to four flagella, which show an active lashing motion, and by means of which the organisms moves about in the blood-plasma. The flagella are several times as long as the diameter of a red cell. Their motion is active enough to set up well-marked movements on the part of the neighboring blood-corpuscles.

Secondly, free flagella have been described. They seem to have become detached from their bodies, and to be capable of leading an independent existence. They exhibit active movements.

Thirdly, some observers have described hyaline pigmented bodies with an actively moving, undulating periphery.

Pigmented white blood-corpuscles have been described. I have not seen them; nor have I in my cases met with free flagella or the bodies with undulating periphery. All of the other forms I have had frequent opportunity to study.

Next, as regards the interpretation of the appearances described in the blood: It is believed that the unpigmented amœboid

body makes its way into a red blood-corpuscle, and lives and increases in size at the expense of the latter. It becomes pigmented, the pigment-granules being changed to hæmoglobin. It has been demonstrated that the granules contain iron.

Having come to occupy the entire, or almost the entire, corpuscle, it enters upon a cyst stage, during which the pigment-granules make their way to the centre, and segmentation of the periphery takes place, thus forming spores, which are subsequently set free. Each spore then begins again the same life-circle.

The biological relation of the crescentic and flagellated forms to the others has not been made out. But there are, among the lower animal organisms, many polymorphic varieties, which at different periods of development exist as spores, amœboid bodies, cysts, and flagellated organisms. Among the protozoa, some forms (sporozoa, Leuckart) develop falciform spores which in appearance resemble the crescents.

As regards the relation of the various forms of the organism to the types and periods of the disease: The description that I have given applies to tertian intermittent. With quartan I have had no experience; but Golgi states that in this form which is the prevailing type in Pavia during the autumn months, the organisms exhibit certain peculiarities. In general, the various forms are more clearly marked off from one another. The segmentation forms are especially clear. He also states that in every case the complete development of the organism corresponds to the interval between two paroxysms of the disease.

The paroxysm seems to be the period at which the segmentation and setting free of spores takes place. This is now tolerably definitely settled. The discovery in the blood of the segmenting bodies justifies the positive prediction that the patient will have a chill at some time within two hours. According to Golgi, immediately after the paroxysm one finds free spores and unpig-

mented amoeboid bodies. During the day of intermission the pigmented amoeboid forms gradually increase in size till six or eight hours before the chill, when the cyst stage is met with. Immediately before and during the chill one finds the segmenting forms.

In my own cases I have found the segmenting forms always just before and during the paroxysm, and at no other time. I have, however, found the pigmented amoeboid bodies at all times, and most numerous during the paroxysm.

It is said that in some epidemics the organisms remain unpigmented throughout the disease.

The crescents and the bodies allied to them occur in chronic cases, usually in those associated with malarial cachexia. This point is one upon which all observers agree.

In two of my cases there were at the same time crescents and amoeboid forms. Both of these forms commonly occur in greater number in severe than in light cases, though to this there seems to be exceptions. The various flagellated forms may occur in any case; but in only a small number of cases in blood from the finger. I found them in only three of my cases.

During the past autumn I had an opportunity to study the blood of thirty-five cases which were undoubtedly malarial disease. In thirty-four of the cases I found the hæmatozoon. In one case the examination was negative, but here I was able to examine the blood only on one occasion. Often, when the number of the organisms in the blood is small, one may look through several slides before finding them.

In my cases, as in those published by others, the amoeboid forms, pigmented and unpigmented, occurred in the acute stages of the disease; the crescentic forms, in the chronic stages. In no case have I failed to find the organism, where the patient presented a clear clinical picture of malarial disease, and where I was able to make a number of examinations of the blood.

The examination for the organism has considerable diagnostic value. In several cases I have been able to diagnose or to exclude malarial disease by examining the blood, where the symptoms alone were not characteristic enough to make a positive conclusion possible, and where the subsequent history has borne out the results of the micropic examination.

The microscopic technique is simple. The blood is best examined fresh, spread out in the thinnest possible layer—the rouleau of corpuscles broken up. High-power objectives are necessary. A $\frac{1}{12}$ -inch oil immersion answers well.

Stained specimens are best prepared by drying the blood in a very thin layer on a cover-glass, which is then passed through a flame, as in examining for bacteria. It may be stained in a watery solution of an aniline dye, washed out in water, or partly decolorized in alcohol, and mounted, as usual, in balsam. Fuchsin and methylene blue give the best results. I find methylene blue most satisfactory, the red corpuscles staining light green, and the hæmatozoa blue.

Unpigmented amoeboid bodies are best studied in stained specimens. The pigmented amoeboid bodies, which are those most commonly met with, are best seen in fresh blood. The crescents also show most satisfactorily unstained. The segmenting bodies and free spores are best studied after drying and staining.

The apparent effect of medication on the organism is important.

A few large doses of quinine are almost invariably followed by a disappearance from the blood of the various amoeboid forms. The crecentic bodies remain unchanged after quinine, but commonly show a diminution in number as the health improves under the treatment proper for chronic plaudism.

These apparent results of treatment followed in my cases as in those of most other observers. The organism has not yet been discovered except in human blood and or-

gans. It has never been isolated. It has never been cultivated outside the body.

Inoculative experiments on human beings are almost uniformly successful. Intravenous injection of malarial blood into a healthy individual is followed by typical intermittent fever, with the appearance in the blood of the second person of the various forms of the organism described. These experiments have been made by Gerhardt, in Germany, and by Marchiafava and Celli and other Italians.

Subcutaneous injections have been unsuccessful.

The few inoculative experiments that have been made upon monkeys have been unsuccessful.

As regards the name of the organism: The term plasmodium has been improperly used in this connection. This name has long been applied to a segregation stage of some of the mycetozoa, and so means, not a particular organism, but a stage of development common to many different organisms. Moreover, so far as we know, the malarial germ has no plasmodium stage.

It is much better, then, in designating the malarial organism, to use the term hæmatozoon of malaria, as suggested by Laveran, which commits us to no definite classification.

Morro injected into the peritoneal cavity of pigeons and chickens blood taken from the carotid of a dog. After two or three days he killed the former, and found in their abdominal cavities a fluid, the remains of the injected blood. This contained some red blood-corpuscles of the bird and some of those injected from the dog. The latter, he claims, showed appearances identical with those described as hæmatozoon of malaria. Morro argues from this that the so-called hæmatozoon is not an independent organism, but merely a metamorphosis of the protoplasm of red blood-cells. Marchiafava and Celli have repeated Morro's experiments with negative results. Maraghano studied the behavior of healthy human red blood-

cells when subjected to various influences. He kept for some time slides of blood the evaporation of serum from which was prevented. Other slides he subjected the pressure, others to heat. He says that under these circumstances he obtained in the red corpuscles amœboid bodies and segmenting bodies identical in appearance to those described as the organism of malaria. In blood impoverished from any cause he finds these appearances more pronounced. He does not state whether he has or has not himself studied malarial blood. I have repeated his experiments with healthy and impoverished red blood-cells, and have seen appearances which correspond fairly closely with what he has described. But in no case have I seen anything bearing close enough resemblance to the so-called hæmatozoon of malaria to justify the belief that they are identical. Klebs states that Rosenstein found in the blood in typhoid fever appearances similar to the so-called malarial organism; that Dujardin found them all in healthy blood, when evaporation of serum was for a time hindered; that Hoffman saw such appearances in pernicious anæmia.

Pfeiffer claims to have found similar phenomena in the blood in scarlet fever, mumps, and in vaccination.

It has been suggested, too, by others that perhaps these appearances may mean merely a retrograde change in the red cells, and may accompany any of the diseases to which marked organic blood-changes belong.

As a contribution toward the settlement of this point, I have undertaken the examination of the blood in a series of cases of other diseases where a malarial element might fairly be excluded. In every case I have used either a one-eighteenth or one-twelfth oil-immersion objective and the same precautions as in the examination of malarial blood. The cases examined were 76 in number, and were as follows: Chronic phthisis, 11; pernicious anæmia, 3; chlorosis, 14; leucocythæmia, 3; jaundice, 3; cancerous cachexia, 3; chronic lead-poisoning, 1; ty-

phoid fever, 10; pneumonia, 4; diabetes mellitus, 2; anæmia from cardiac disease, 2; acute articular rheumatism, 5; cirrhosis of liver, 1; septic fever, 2; chronic Bright's disease, 5; scarlet fever, 3.

In the above cases I found in the blood no appearances that could be confounded with those in malarial blood by one accustomed to examine the latter. There were in the red cells only those changes usually found in the blood impoverished from any cause.

As regards the classification of the organism, we place it in the animal kingdom—morphologically, because it is at no time enclosed in a cell-wall of cellulose; physiologically, because it seems incapable of making its protein from simpler substances. It seems at all times to be unicellular, so we call it a protozoon.

Further positive classification is at present unsafe. It seems, however, from its general characteristics, to belong among the flagellated infusoria. In connection with the hæmatozoon of malaria the consideration of the other parasitic protozoa is of interest. The study of these has of late been neglected, and the difficulties in the way of investigation, and especially of cultivation, of these organisms, have put rather narrow limits to our knowledge of them. Cartulis has recently found, in the stools of Egyptian dysentery and pus from abscesses of the liver in cases of dysentery, large amœbæ which, he believes, have a causative relation to the disease. He has found them in every case of the dysentery, and never under other conditions. He has not worked out their life-history. His work has not been repeated by others.

Deichler has described protozoa in the expectoration of persons with whooping-cough. Pfeiffer and Loeff have very lately described a most interesting series of amœboid organisms, protozoa, existing in the contents of small-pox, varicella, and vaccinia pustules. But the parasitic protozoa of the blood bear

an even closer relation to the malaria question.

A peculiar organism has long been known in the blood of many frogs. It was supposed by Gaulé to be merely a metamorphosis of the protoplasm of the red cells. It is often called "Gaulé's Wurmchen." Ray Lankester and others have proved that it is an independent organism—a protozoon. Part of its life is spent in the interior of a red blood corpuscle.

Wittich has found in the blood of moles protozoa resembling closely those in malarial disease in man.

Marchiafava and Celli, examining the blood of frogs living in ponds about Rome, saw hæmatozoa very like those in malaria. In one case they found a flagellated organism which lost its flagella, these latter then going on to lead an independent existence.

Mitrophanow and Danilewsky find similar flagellated protozoa in the blood of fishes, especially the carp and mudfish; also in various other lower animals—frogs, turtles, lizards, and others.

Lewis and Crookshank, in India and in London, find similar organisms in the blood of apparently healthy rats.

It is interesting to notice that in the above list of animals, most are more or less continuously subjected to the influences and environment that in human beings are popularly supposed to give rise to malarial disease.

The above-mentioned parasites are usually called physiological hæmatozoa, since the animals serving as hosts seem healthy. It is very possible, though, that they may be the cause of diseases on the part of the host, clinical evidence of which we are unable to discover. The question whether certain fish, lizards, and birds are perfectly healthy or not is one difficult or impossible to settle.

The only apparently pathogenic protozoon that has been studied in the lower animals is that of "surra." Surra is a disease occurring in India in horses, mules, and camels. It has a distinctly intermittent character, and is accompanied by high fever, jaundice,

and prostration. It is commonly fatal. In the blood of the diseased animals, Evans, Steele, and Crookshank have uniformly found a flagellated protozoon which seems to be polymorphic. The organism disappears from the blood during the intermission, to reappear again during the paroxysm.

The intravenous injection of blood from a diseased into a healthy animal is followed by the disease in typical form, and by the appearance of the hæmatozoa in the blood of the second animal. The organisms are more numerous in severe than in mild cases. They are very like those found in the blood of apparently healthy rats. They have not been cultivated outside the body.

Many of the lower fresh-water plants are infested by parasites which show striking points of similarity to the hæmatozoa of malaria. These are actively moving flagellated bodies which find their way into a vegetable cell. The body loses its flagellum and becomes amœboid. It lives at the expense of the cell it occupies, increases in size, and stores up within itself granules of brownish-black pigment which are changed chlorophyl.

Having completed its amœboid stage, it becomes encysted. The pigment-granules are gradually massed at the centre, and segmentation of the peripheral protoplasm takes place. The segments are spores, usually swarm spores, which are set free again begin the same life-history.

These organisms were well studied by De Bary and Zopt long before Laveran's first work on the malarial organism was published. They are classed among the mycetozoa or myxomycetes. Each parasite is, as a rule, peculiar to some one plant, usually one of the fresh-water algæ.

The points of marked similarity between the mycetozoa and the hæmatozoa of malaria suggest a possible genetic connection between them, and that the malarial organism may exist outside the body as a parasite of some plant.

If malarial disease is caused by a micro-

organism, we must assume that it is capable of indefinite life and multiplication outside the body. Only this supposition would explain the phenomena of intermittent fever. Chlorophyl seems to stand in closer relation to hæmoglobin than any other substance found in the inorganic and plant world.

It seems possible, then, that the malarial hæmatozoon may also be a plant parasite, and that the distribution of malarial fevers may depend upon botanical conditions, or the presence in a given locality of a plant capable of serving as host for the organism.

In conclusion, then, we may state facts:

1. The presence of the phenomena grouped under the name hæmatozoon of malaria in the blood of persons suffering from malarial disease.
2. The presence of crecentic bodies, only in chronic cases.
3. The presence of the segmenting forms only immediately before and during the chill.
4. The disappearance of all but the crescentic forms after the administration of large doses of quinine.
5. The possibility of transferring malarial disease from person to person by intravenous injection of malarial blood.

But we must at present recognize as hypothetical though probable:

1. An etiological relation between the appearances described in the blood and the disease itself.
2. The absence of these appearances from the blood in all other conditions.
3. The assumption that the bodies described are one and the same organism.
4. The assumption that any of the forms excepting the flagellated bodies are independent organisms.

Finally, I wish to express my thanks to Dr. Francis Delafield and Dr. William H. Draper, and to the house staff of Roosevelt Hospital, for their kindness in allowing me access to the cases in the wards of the Roosevelt Hospital, and to Dr. Councilman, of Baltimore, for many valuable suggestions in regard to the study of this subject.

BOOKS AND PERIODICALS.

A PRACTICAL
TREATISE ON
DISEASES OF
THE SKIN.

BY

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With colored plates and other illustrations. New York: D. Appleton & Co. 1888. Cloth. 633 pages.

Prof. Shoemaker, as practitioner, journalist and teacher, has won for himself a high place in the medical profession. The first part of this work is devoted to general considerations including the anatomy of the skin, the physiology of the skin, etc. The second part is devoted to a classification of cutaneous diseases upon an anatomical basis. The first class includes disorders of secretion and excretion; the second class, various forms of hypermia; the hemorrhagic types

form the third class; whilst exudations, embracing such eruptions as rubeola, scarlatina, variola, erysipelas, chancroid, syphilis, herpes, acne, furunculus, eczema, etc., constitute the fourth class; hypertrophies form the fifth; atrophies the sixth; tumors the seventh; neuroses the eighth; parasites the ninth; the whole work concluding with a formulary, divided into internal and external medicaments, the latter embracing plasters and soaps.

This work differs from most others in the brief, systematic and practical manner which characterizes Dr. Shoemaker's consideration of the various subjects. The chromo-lithographs are exceedingly well executed. Facing page 152 is a lifelike representation of a chancre of the lower lip, believed to have been communicated in a kiss. The statement by Dr. Shoemaker that chancre, as a rule, is not accompanied by pain, or any other subjective symptoms, and usually dis-

appears in a few weeks, without either cicatrization or pigmentation, will hardly be accepted as applying to other portions of the country than Philadelphia. The facts are, that chancres are formed by the infection of the wandering cells, the leucocytes, or lymph corpuscles at the point of introduction of the virus, appearing first as a papule, which is attended by almost constant burning pain, increasing until the vesicle which forms at the apex of the papule has ruptured, and the chancre begins to assume the characteristics of an open sore. If it be not treated rudely, by caustic or other stimulating applications, it may, by keeping it covered with lint, to protect it from friction, be unattended by pain. In many instances, however, pain is a pronounced symptom. The cicatrix left at the site of a chancre differs greatly in proportion to the anatomical features of the surface at the site of development. A chancre on the corona glandis, though it leave a cicatrix, may, nevertheless, leave so small and so thin a scar as to escape detection without close observation with a magnifying glass. In other cases the scar is dense, and easily perceived by the unaided eye.

Under the head of CANITIES, Dr. Shoemaker names various causes, amongst which the use of Pilocarpine given internally, may be numbered with fresh interest, "The arrest of unnatural changes in the color of the hair may sometimes be accomplished by local applications of an infusion of sage, the oil of walnuts, oil of eggs, oil of mace, oil of cassia, and oil of colocynth." Speaking of hair dyes, the author says, "the most lasting are the mineral dyes, the best of which is the nitrate of silver."

In the main, the text is comparatively free from errors, whilst the therapeutical features of the work are unusually lucid and practical. It is well calculated to meet the wants of both the student and the practitioner, and deservedly takes rank as the best text-book on cutaneous diseases by an American author.

CORRESPONDENCE AND SOCIETIES.

TRIPLE
AMPUTATION.

BY

JOHN ASHHURST, JR.

M. D.

Transactions of the College
of Physicians of Philadel-
phia. Stated Meeting,
March 7, 1888. The
President, S. Weir
Mitchell, M. D., in
the Chair.

Stenographic Report for
PROGRESS.

He said: Mr. President, the first business in order was the report of a case of successful simultaneous triple amputation for railway injury, with remarks on the technique of multiple amputation.

This patient is brought before the College largely on ac-

count of the rareness of simultaneous triple major amputations. It is quite possible that some of the Fellows may not have had an opportunity of seeing such a case.

The patient is a Moor, twenty years of age. He was admitted to the University Hospital, November 28, 1887, having been run over on the Pennsylvania Railroad. I saw him within two hours after his admission. I found a compound comminuted fracture of the right leg, the laceration extending above the knee; complete avulsion of the left leg, the limb having been torn off in its lower third; and a compound fracture of a severe character of the right hand and wrist. There was also a compound fracture of the skull, involving the frontal bone. This, however, was an impacted fracture, of course without much depression, and did not require interference. In addition to these injuries, there were numerous brush-burns and contusions, some of a grave character. One on the left buttock was so severe that the separation of the slough left a cavity fully two inches in depth. Notwithstanding these serious injuries, the patient's general condition was very good; he had reacted thoroughly, and his axillary temperature was 99° F. Under these circumstances, I felt justified in proceeding to the immediate removal of the injured limbs, and amputated successively the right thigh by the antero-posterior flap method; the left

leg, about its middle, by a modified Sédillot's extrenal flap operation, the modification consisting in making both flaps from without inward, instead of cutting the external flap by transfixion; and the right forearm by an oval incision, making use of the uninjured skin of the back of the hand and wrist. Certain variations from the ordinary procedure in amputations I shall refer to when I come to speak of what I have ventured to term the technique of multiple amputations. After the operations were completed, the temperature had fallen only to 98° F. The patient had no bad symptom and rapidly recovered, and as you see him now all his wounds are perfectly healed, and he is entirely well.

I have collected some statistics of synchronous multiple amputations. I am able to find but one instance of *quadruple* synchronous amputation—a case in which the operations were done for frost-bite by Dr. George E. Jackson, of Dakota. There are several cases recorded of quadruple amputations, not synchronous, the one which approaches nearest to a synchronous operation being that of Champenois, a French surgeon, who amputated three limbs on one day and the fourth a few days later.

Of synchronous triple amputation there have been reported four successful cases, not including that present to-night; one by Dr. Köhler, of Schuylkill Haven, Pa.; one by Dr. Lowman, of Johnstown, Pa.; and two referred to by Professor Agnew, in his *Surgery*, one occurring in the practice of Dr. Stone, of New Orleans, and the other in York, the name of the surgeon not being given. There are reported four or five triple amputations not synchronous. I have myself resorted to synchronous triple amputation in two cases. Several years ago, I had occasion to perform this operation, removing both legs and right forearm of a man, aged forty-five years, of intemperate habits. The patient died on the tenth day, the fatal result being due rather

to the visceral lesions resulting from alcoholism than to the operation.

Double amputations are comparatively numerous. I have personally performed fifteen such operations, this number not including two successful cases of double partial amputation of the feet. I have done fifteen double major amputations, of which five have ended in recovery. One of the patients who recovered, I had the honor of exhibiting to the College some years ago; the amputations in his case were through the right hip-joint and through the left leg. In the fatal cases, seven of the deaths occurred within less than one day, and were, therefore, the immediate result of the shock of the injury and of the operation. Three patients died, one in three days, one in four days, and the third in eighteen days. The latter would probably have recovered, but that he also had suppurative disease of the middle ear, which appeared to be the cause of the pyæmia which proved fatal; for when the stumps were examined, after death, they were found to be in good condition.

With regard to what I have termed the technique of multiple amputations, there are some points which my experience justifies me in urging upon surgeons as of importance in promoting success. In the first place, it is very important that the time occupied by the operations should be brief; that the operations should be done systematically, so as to keep the patient under the anæsthetic as short a time as possible. The next point, perhaps of even more importance, is to keep up the temperature of the patient during the operations. I have been led to think that this is, perhaps, of more importance than anything else. Of course, loss of blood must be scrupulously guarded against, and loss of blood directly causes loss of temperature. In this case, hot cans were kept around the patient during the entire operation; and, in order to save time, I operated systematically, the tourniquet and Esmarch bandage being

both employed to prevent any loss of blood. began with the most serious injury, and this is, I think, a point of importance. It may happen that, after the removal of one limb, it will be found that further operation must be postponed on account of the patient's condition, and then it is, of course, better to leave him with the less severe injuries. In this case, I began with the thigh. After amputating the limb, I secured the main vessels, which were readily found. I attempted to tie the arteries with catgut, but as the ligatures broke, I substituted silk, and, in order to save time, left both ends uncut. I next amputated the right leg, securing the vessels in the same manner, and then passed to the forearm. I then came back to the right thigh, screwed up the tourniquet and removed the Esmarch bandage, and secured all the vessels that required ligature, then passing to the other limbs in the same order as before. After the vessels had been secured in each case, a towel dipped in a hot antiseptic solution was placed between the flaps. The wounds were then dressed in the same order, and in this way the operation was completed in a comparatively short time.

The points which I have mentioned I believe to be of great importance, and I think that much of the disappointment of surgeons from these operations is due to a want of attention to these matters.

I should also say that, in order to preserve the bodily heat, I did not use irrigation during the amputations. I think that this often seriously reduces the temperature; and even in comparatively slight operations where it has been used, I have seen the temperature fall to 97° F., and even 95° F. I think that in any grave case, it is better to omit it and to rely upon washing with hot antiseptic solution before and after the operation. Also, the packing of wet towels around the seat of the operation, as is very commonly done, tends to depress the temperature, and in grave cases should be omitted.

I think that it is to an observance of these

precautions that I have owed success in this case, and in many other serious operations of various character.

[The patient was then exhibited to the Fellows of the College.]

After the conclusion of the preceding remarks—

DR. WILLIAM HUNT said: Dr. Ashhurst has dwelt upon the importance of saving time. There is one way in which time might be saved, and that is by more than one surgeon operating at the same time. Dr. Morton and I have done that on two occasions, each taking a limb and operating at the same time. I do not know how it would work with three.

DR. H. C. WOOD said: I should like to make a remark with reference to this point of keeping up the animal heat. Many people die in acute diseases, in acute poisoning, and after severe operations, because the temperature is not maintained. I have proven by experiment that if two animals are subjected to severe injury, and one is kept in a moderately cool room, and the other in a hot room, the one will die, and the other will recover. In this connection, I will repeat a suggestion made to me by Dr. Dercum, which would afford one of the most efficient measures for maintaining temperature—and that is, to fill the ordinary water-bed with hot water, and to allow the patient to lie on it.

DR. CARR, of Washington, said: I did not know until I heard the remarks of Dr. Ashhurst the importance of a case that I have had. I have performed a quadruple amputation for frost-bite. The patient was brought into the hospital in a condition of collapse with the four extremities frozen. He reacted well, and remained in the hospital a week, when his constitutional condition became serious, and after consultation it was decided that amputation of the four extremities was desirable. I operated, removing one foot above the ankle, the other foot through the metatarsal joint, one forearm about its middle, and one hand, leaving a

small stump of the thumb, disarticulating it at the metacarpo-phalangeal articulation. The patient did very well.

In operating I secured the vessels with hæmostatic forceps, and left the stump in that condition while I proceeded to amputate another limb.

DR. J. WILLIAM WHITE said: I understood from Dr. Ashhurst's paper that in his classification of triple amputations partial amputations were not included. I had last year at the University Hospital a double-knee-joint amputation, with amputation of a portion of one hand, leaving the thumb and one finger, and should have been glad to present the patient this evening.

In reference to the technique, I have only one or two suggestions to make. If the irrigation is done with warm or hot water, it does not necessarily reduce the temperature, and, in fact, may aid in keeping up the bodily heat. The same is true with reference to the use of wet towels, which can be wrung out of hot water and frequently renewed. Braman, assistant to von Bergmann, has recently detailed the results obtained at the latter's clinic by packing wounds with iodoform gauze. This prevents the formation of a blood-clot, which is, perhaps, next to a failure to secure asepsis, the most important cause of the failure to obtain primary union. Where there is danger of oozing, he packs the wound with iodoform gauze, which is allowed to remain from forty-eight to seventy-two hours. It is then removed and the sutures applied; in the vast majority of cases union by first intention is secured. Even when it was left *in situ* for from four to six days such union occurred after suturing. In a case of double or triple amputation time might be saved by packing the first operative wound with iodoform gauze as soon as the vessels are secured, and then dressing it. This could be done by an assistant, and the patient removed to the ward much sooner than if time were taken to introduce stitches. The suturing could be

done any time during the next two or three days.

DR. MITCHELL said: I have listened with a great deal of pleasure to the remarks as to the temperature of patients under ether or chloroform, and the possible influence of irrigation upon these cases.

I would like to ask what some of the gynecological operators would say. In their cases the abdomen is sometimes largely opened, and the intestines exposed; if irrigation lowers the temperature in ordinary surgical cases, how much more should it do so in these?

I think it would be advisable to have a series of experiments and observations as to the effects of ether, chloroform, and perhaps other anæsthetics, upon the temperature, when used for long periods. As concerns the interesting case of triple amputation shown us by Prof. Ashhurst, I would like to say that no physiological statement has been made, so far as I know, as to the effect of large losses of tissue upon the pulse, temperature, nutrition, blood-pressure, amount of urine, etc. A tempting subject here awaits some industrious observer.

DR. WHITE said: Experiments are now being made at the University of Pennsylvania, upon animals and clinical subjects, to determine the effect of the administration of ether on the bodily temperature, and seem clearly to indicate that a drop of from one to three degrees may be expected, not only in cases where no irrigation was used, but even where no operation of any sort has been performed.

The note of a case has just been handed to me, in which the temperature fell four degrees. The temperature before operation was 99.5° , and after operation (which was the removal of a tubercular testicle) it was 95.5° . No irrigation was employed. No general symptoms of shock, such as weakness or failure of the pulse, leakage of the skin, or shallowness of respiration, were observed in this case. A series of nine cases of all sorts of operations gave similar results;

though the average reduction of temperature was not more than two or three degrees.

DR. WILLIAM GOODELL said: In removing the ovaries, one has to be very cautious on account of the collapse that may occur if the ovary is pinched or roughly handled. Something similar, I fancy, would occur in the removal of the testicle, and this, I think, had a good deal to do with the fall of the temperature noted.

DR. ASHHURST said: The suggestion made by Dr. Hunt is an old one. Before the days of anæsthesia it was thought that the patient might suffer less pain by having both operations done at once; but, when the patient is insensible, there will certainly be less confusion by having only one done at a time.

With reference to irrigation, as I have already mentioned, I have seen the temperature fall as low as 97° after a simple operation, and in operations not usually considered capital, such as the removal of the breast, the temperature has gone even lower, and the patient has remained in an extremely critical condition for hours. This has been where there has been no loss of blood, and no condition other than the irrigation to account for it. In cases where antiseptic measures have not been employed, I have not seen this depression, except when there has been great loss of blood, or unnecessary exposure of the patient.

In my list I have not included any but synchronous major operations. The cases reported to-night seem to have been instances of minor amputation, as regards some of the parts removed, and can, therefore, technically be looked upon as only double, not triple or quadruple amputations.

Another word with reference to irrigation; even if warm solutions be employed, they will tend to cool the body by evaporation, and the same is true with regard to wet towels; even if hot when applied, they will reduce the temperature unless covered with oiled silk, to prevent evaporation. I do not think that the administration of ether alone

has much effect upon the temperature, but under any circumstances we can better dispense with irrigation and wet towels than with anæsthetics.

In regard to the case of excision of the testis, which has been mentioned, it may be said that operations of the testicle necessarily require considerable exposure of the lower part of the abdomen. It is also a well known fact, that division of the cord is often followed by profound shock. This observation has been made by Mr. Erichsen, at the University College Hospital, London, and my own experience confirms it. The moment that the cord is divided, the pulse fails decidedly, and there is more shock from removal of the testicle than from any other operation of equal gravity in the whole range of surgery.

I have no objections to the antiseptic method of treatment, and I am in the habit of employing it, but I think that we should not close our eyes to the fact that it may have some disadvantages. I think that the maintenance of the patient's temperature is of more importance than the exclusion of a few microbes. All that can be accomplished by irrigation can be equally accomplished by washing the part before and after the operation, care being taken to keep the patient warm and dry. The ordinary antiseptic dressings were employed in this case after the operation; I consider that their chief advantage is that they permit infrequent dressing of the wound.

able as such things generally are. In the half dozen or more of these institutions, good; bad and indifferent, the graduating classes have ranged from a dozen to one hundred, and there can be no doubt when comparing the small select class turned out by the only high school grade here (we have, as you know, the high, the low, and the jack-and-the-game grade; a variety to suit the taste of all; those easily satisfied or the most fastidious) with those which receive students on the "go as you please" free for all plan that quality is better than quantity.

In the hubbub of worry and work the profession should not forget that St. Louis with New York and Philadelphia, not forgetting Harvard, have done more practically in solving the problem of advanced medical education than all the rest of the country combined.

Driving out Grand Avenue South, by the old Wesleyan cemetery, a sight to impress one thoroughly with our mortality is presented to view. For many years this old and neglected graveyard has been the abode of the first and best families of St. Louis; the young, middle-aged and old have there dwelt quietly and contentedly in quarters narrow, which they borrowed from their brethren—the worms.

The progressive march of the city westward, necessitated the abdication of the burial-ground on the part of its inmates, but circumstances over which they had no control, prevented a complete compliance with the demands of commerce by many of the denizens of this "city of the dead."

Some of the antiquated and conservative barnacles left behind in the flesh, in St. Louis, cannot plead so plausibly, for having persistently clogged the wheels of urban progress.

The aforesaid denizens who were unable to relinquish their claims upon the territory which they had occupied for so long a time were evidently entirely forgotten, and of no further interest to the world outside, and the full enjoyment of their pride in their family

<p>MATTERS</p> <p>MEDICAL AT</p> <p>ST. LOUIS.</p> <p>BY</p> <p>ISAAC NEWTON LOVE,</p> <p>M. D.,</p> <p>Consulting Physician City Hospital, Editor <i>Weekly Medical Review</i>, etc., etc.</p> <p>To the Editor of PROGRESS.</p>	<p>The medical profes- sion in St. Louis is jogging along in its usual way, nothing having recently oc- curred to arouse more than a passing inter- est. The customary college commence- ments have all come and gone, and no doubt have been as enjoy-</p>
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record was slightly marred by this fact, and by a knowledge on their part that the chief occupation of their worthless sons and successors in St. Louis was boasting of the work done by these same ancestors, leaving them no time for other duties, not even a moment in which to pay a slight tribute of respect to the aforesaid ancestral bones.

Yea, the smaller fry, even, who had been their earlier companions in their lonesome habitations, had sucked them dry, and deserted them, like their friends and sons of the world over their heads. But cities and corporations have no souls, and dead men's bones whose souls and sons and friends and worms have deserted them, tell no tales, and utter no complaint, and e'en though the highest bidder for this dismantled "God's acre" be a vulgar, greedy *brick manufacturing concern*, no objection is entered and no moan of discontent is heard.

The surveyor's chain and outfit soon define the proper boundaries, and the "powers that be" follow up with the necessary condemnation of space for avenues and boulevards.

The onslaught begins; the excavators cart off the mingled mother earth and mortal clay. The charnel houses are cut through, here a skull ("once of ethereal spirit full" and all that sort of thing), and there a femur and a *humerus* left in *serious* proximity to the gaze of the graceful or uncouth passers-by, and on to the gluttonous gullet of the modern brick machine goes the carts, the driver singing the while stray notes from "John Brown's body lies mouldering in the ground." As the days pass the workmen with their loaded carts jog on and the earth is placed in proper form and run through the fiery furnaces, and in the shape of brick soon becomes part and parcel of elegant homes on the boulevard, and as I recall how much of their component parts were once our first citizens, I find my thoughts turning to the lines of the immortal bard:

"Imperial Cæsar dead and turned to clay,
Used to stop a hole to keep the wind away."

By the way, we doctors in our weary rounds of work have abundant food for reflection. Sunshine and shade are mingled together, and it behooves us to have a care that the shade do not predominate.

I am strong in the conviction that where the prevailing thought in the mind of a doctor is not a cheerful one, his opportunities for usefulness are circumscribed. An owl's dignity and a funeral solemnity ill become him. He should cultivate a habit and condition like things in the regions above the moon, and determine if possible to be always clear and serene, remembering that the most manifest sign of wisdom is a continual cheerfulness. It is far better and wiser to sing at your work than to pursue it in silent sullenness. You will do more in the same time, do it better, and persevere longer.

One's capacity for work grows with his growth if he but permit his heart to bask in the sunshine of cheerfulness.

As cheerfulness is conducive to work, so is work productive of cheerfulness—the one is the hand maid of the other.

This matter of work for physicians brings to my mind the remarks of President Young H. Bond, of the St. Louis Medical College, made in an address to the society a few weeks ago. Dr. Bond strongly urged more decided and systematic literary work on the part of all the members of the society. He advised it for the reason that the individual workers and the society as a body would be the gainers. I am strongly of the opinion that literary work is of more service to the young in our profession than in any other. A constant mingling with self in the office waiting for patients, reading nothing but the code of Ethics, and ever looking out for the breaking of the same on the part of others, is not conducive of happiness.

Burton has well said that the bulk of the melancholy in the world is due to idleness. He says that "idleness is the bane of body and mind, the nurse of naughtiness, the chief mother of all mischief, one of the seven deadly sins, the devil's cushion,

his pillow and chief reposal. An idle dog will be mangy; and how shall an idle person escape? Idleness of the mind is much worse than that of the body; wit without employment is a disease—the rust of the body a plague, a hell itself. As in a standing pool, worms and filthy creepers increase, so do evil and corrupt thoughts in an idle person; the soul is contaminated. Thus much I do boldly say: he or she that is idle, be they of what condition they will, never so rich, so well allied, fortunate, happy, let them have all things in abundance and felicity that heart can wish and desire, all contentment—so long as he, or she, or they, are idle, they shall never be pleased, never well in body or mind, but weary still, sickly still, vexed still, loathing still, weeping, sighing, grieving, suspecting, appended with the world, with every object, wishing themselves gone or dead, or else carried away with some foolish phantom or other.” And indeed he is right, the briefless barrister, or the careless doctor waiting for a patient, no patient from day to day will certainly be the victim that Burton so well delineates, unless he delves into the literature of the profession, and helps to elucidate some of the problems which present themselves for solution.

Bearing in mind that work of one kind or another is one of the best educators of practical character, evoking and disciplining obedience, self-control, attention, appreciation and perseverance; giving a man deftness and skill in his special work, and aptitude and dexterity in dealing with the ordinary affairs of life, let us all work and not weary in our efforts at well-doing for the night is coming when no man can work.

Speaking of work and workers I cannot refrain from referring again to Dr. Young H. Bond, who is now the President of the St. Louis Medical Society, and as you know the new President of the Mississippi Valley Medical Association, and coming rapidly to the front in this section of country as a leader worthy of a large following.

He is undoubtedly at the head of the de-

partment of Gynecology in the West; he is one of the best workers in our Medical Press Association, and in every way is giving evidence that he will do credit to the name of Bond, which dates back to the earliest times in the profession in America.

He is a great-grandson, I believe, to Dr. Thomas Bond, of whom Dr. Thomas G. Morton, of Philadelphia, thus speaks in an address regarding the Pennsylvania Hospital to the foreign visitors to the ninth International Medical Congress: “The year 1750 marks the birth of the Pennsylvania Hospital. At this time Dr. Thomas Bond, one of the representative physicians of the city, conceived the idea of establishing a free hospital, in order to provide accommodations for the care of such cases. He early secured the co-operation of that philosopher and statesman, Benjamin Franklin, and by their efforts, with the assistance of others whom they succeeded in interesting in the movement, a charter was obtained from the Provincial Assembly of 1751.

“Franklin, besides actively interesting himself in the administration of the infant institution, was the first secretary of the hospital and the second president; indeed, his interest in it only ceased to be manifested at his death. It seems to us eminently fitting that this great charity, the first in the long list of American hospitals—a fact of which we may be justly proud—should have had its first impulse and inception in the personal efforts of a member of the medical profession. In consequence of the unsullied integrity, and wise conservatism which has always characterized the management, and of the valuable lessons which have been taught within its walls and published to the world, this institution has fairly earned a high position, not only in this community, but also wherever medical science is taught or American books are read. It may not be known to you, but this institution was the pioneer in giving systematic medical instruction in this country. In this hospital, in 1776, Dr. Bond delivered the first course of

clinical lectures to medical students and practitioners ever given on this side of the Atlantic."—*Medical Register*.

Look out for Bond. You'll hear from him in the near future in my judgment.

While on the department of Gynecology, I am reminded of the one who has represented that field of work here these many years; from early morn to dewy eve he has worked with head, heart, hand and pen, and worked well. And though full of years and honors he is still in the harness, being one of the few pioneers of the profession in St. Louis who have grown old so gracefully as to still be young. Only a few week ago he read a short and practical paper before the Medico-Chirurgical Society of St. Louis, upon "The transmission of morbid influences and drugs to the fetus in utero through the mother's blood and through her milk after birth." He gave many valuable points, based upon a long experience.* I quote only the following:

"A very important influence on the child in utero is furnished by the eruptive fevers, especially variola, on account of their great fatality to mother and fetus. Varioloid and discrete variola are less fatal to the fetus in utero than confluent variola, especially the hemorrhagic form. These last forms of variola are fatal to the great majority of mothers and children. These generally are dead when born, or die soon after; others live, presenting at birth variolic pustules, as has been the case with an old and very respectable creole gentleman of this city. He had, however, a marked predisposition to the disease, which he contracted twice since. However, some of the children of variolic mothers are born and live healthy. A curious fact is their non-susceptibility to vaccination. They had undergone, as it were, a process of inoculation in the womb, through the mother's blood. She had variola and they had not, at birth nor after. The mother in some cases may not have small-pox, and the child in utero have it, presenting at birth well characterized variolous pustules in dif-

ferent degrees of maturation, as observed by Jenner, Watson and others. A striking instance of this happened a few years ago at Elleardsville, a suburb of this city, where a woman in the last month of pregnancy nursed her husband who had confluent small-pox, of which he died. The child at birth had characteristic variola pustules. The mother never had any manifestation. She was, as it were, the conductor which transmitted the variolous poison to the child in her womb. By a curious anomaly, in a case of twins reported by Chantreuil, one child was born with small-pox, the other not. In another case both twins were born with small-pox. In another case the poison reached the child through the father who, at the time of fecundation, was convalescing from an attack of small-pox. The child was born with small-pox, the mother free from it. What unknown influence is this that can reach the fetus who has no direct vascular communication with the mother? Did the spermatozoa carry along with it a microbe? What microbe, if any? In the last quoted case the mother remained free from small-pox.

"Every pregnant woman should be vaccinated, as the influence of vaccination protects also the child in utero; one-half of the children are, at least for six months after birth, not susceptible of vaccination, when the mother had been vaccinated during pregnancy. It is a harmless procedure, and a very prudent one, in view of the great fatality of variola to pregnant women and the fetus in utero."

The one to whom I refer, and who is held in loving regard by the entire profession of St. Louis, is Dr. L. Ch. Boisliniere, Sr. Your readers are no doubt familiar with his name as a representative of the department of Gynecology and Obstetrics, but not with the fact that for forty years past he has been the young doctors friend, and the one man now in the older ranks whom they all revere. No one ever yet come within reach of his presence but that they were made to feel better for having met him. He thor-

oughly understands the essence of true politeness, and possesses it to a marked degree—a considerate regard for the rights and feelings of others. By the way, Boisliniere, along with Hodgen, Gregory, McDowell, Johnston, Linton, and a score of our strongest and best men came from your grand old State of Kentucky. In fact you'll find the bulk of the best that we have here in all of the departments of life, are Kentuckians, Virginians and Marylanders.

The Mississippi Valley Medical Association, which meets here in September, will be made to feel that St. Louis is a reflex of Kentucky and Virginia hospitality.

CENTRAL
KENTUCKY
MEDICAL
ASSOCIATION.

The Central Kentucky Medical Association met at Lexington, April 18, 1888. Dr. George Cowan, of Danville, the retiring

President, delivered an address on the dangers of legislative interference with the qualifications to practice medicine. He pointed out the discouraging effects upon those schools whose standard of requirement have been elevated upon a purely scholarly basis, by State Boards of Medical Examiners appointed by Governors, or elected by legislative caucus. He believes the only correct course would be to offer encouragement to higher education by giving to those schools whose standard is high the power to dictate the character of examination for those who have not the classical warrant of a Diploma. More ample endowment of schools, greater respect for the well-earned Diploma, and a better examination of candidates who are not graduates would, he thinks, encourage the sound principles of emulation in scientific study, and, at least, offer some sort of moral and substantial support and recognition of educational training. By the now rapidly increasing custom of providing State Boards of Examiners, the Diploma of the best colleges in the country is brought down to the same grade with the disreputa-

ble commercial institutions of which nearly every inland town can now boast one. In this way the narrow-minded and superstitious little pathies, and sectarian bodies without one ray of scientific light to guide them are able to appear before the people as the persecuted minority of a political party often does.

Dr. Cowan's address was an able presentation of the whole subject, and we deeply regret not having the necessary facilities for laying it in full before our readers.

The next order of business was an essay on the management of normal Labor, by Dr. A. D. Price, of Harrodsburg. The minute details of his description of how to prepare the obstetrical bag, and what it should contain, as well as the manner of approaching the patient, and the conduct of the accoucheur seemed faultless. An animated discussion, however, sprung upon the question of asepsis and antisepsis.

Dr. A. W. Johnston, of Danville, dissented from the essayist on the use of any other antiseptics than plain soap and water.

Dr. Steele Bailey warmly seconded the views of Dr. Price.

The essay of Dr. A. W. Johnston on "when should the abdomen be opened," was well illustrated with a specimen of uterine myoma, and seemed to cover nearly all the conditions justifying laparotomy.

Dr. L. S. McMurtry, of Danville, added Perityphlitic Abscess to the list of conditions demanding laparotomy, and reported the case of Dr. Owen, who was present. Dr. McMurtry found Dr. Owen in rapidly developing collapse from perforation of the cœcum. Abdominal section revealed two openings in the gut and a large accumulation of feces and bloody pus in the peritoneal cavity, section of the intestines and closure with the Lembert suture, and cleansing of the peritoneum of the morbid matter brought about speedy recovery.

Dr. W. C. Webb, of Bryantsville, reported his experience in the treatment of strangulated and incarcerated Hernia.

PROGRESS

A MEDICAL MAGAZINE. ISSUED MONTHLY.

DUDLEY S. REYNOLDS, A. M., M. D., EDITOR.

THOMAS C. EVANS, M. D., ASSISTANT EDITOR.

W. C. DUGAN, M. D., BUSINESS EDITOR.

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VOL. II. LOUISVILLE, APRIL, 1888. No. 10.

THE MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

The next annual meeting of the Mississippi Valley Medical Association will be held in the hall of the St. Louis Medical Society, Seventh and

Chestnut streets, St. Louis, Mo., Sept. 11, 12, and 13, 1888. The officers are:

Dudley S. Reynolds, M. D. President; Alexander Dunlap, M. D., Springfield, O., Young H. Bond, M. D., St. Louis, A. R. Jenkins, M. D., Henderson, Ky., H. C. Fairbrother, East St. Louis, Ill., Dan. A. Thompson, M. D., Indianapolis, Ind., Vice-Presidents; J. Lucius Gray, M. D., Chicago, Permanent Secretary; A. H. Ohmann-Dumesnil, M. D., St. Louis, Treasurer.

COMMITTEE OF ARRANGEMENTS.

Isaac Newton Love, M. D., St. Louis, Chairman; Young H. Bond, M. D., H. H. Mudd, M. D., H. Tuholske, M. D., J. R. Lemen, M. D., H. C. Dalton, M. D., Frank R. Fry, M. D., A. H. Meisenbach, M. D., W. B. Outten, M. D., Spencer Graves, M. D., N. B. Carson, M. D., Jourdan W. Lambert, M. D., J. H. Hornsby, M. D., Local Secretary.

All members of the regular medical profession in the Mississippi Valley and contiguous territory are invited to attend. The Society is intended to bring the working

members of the profession in the Middle and Southern States into closer relations for organized work. In the past its meetings have been characterized by greater activity in the presentation and discussion of practical questions in medicine than have the meetings of any other medical association within our knowledge. In fact the amount of work done at the last meeting clearly indicated the necessity of a division into sections after the plan of the American Medical Association, and it is probable that this question may be presented for final consideration at St. Louis.

HE IS NOT A KENTUCKIAN.

An editorial in the *Louisville Post* of April 16, commenting upon the prospective recovery of Mr. Roscoe Conkling, says: "The distinguished patient called for a mint julep during the night, and enjoyed it very much. We do not believe any man, *unless he be a Kentuckian*, is very near death's door, whose system yearns for a mint julep. Physicians to the contrary, we believe Mr. Conkling is on the high road to recovery, and *here's looking at him.*"

It is very plain the editor who writes leaders for the *Post* entertains a poor opinion of Kentuckians; and that he is a spiritualist of the practical and materialistic type.

TRAINED NURSES.

The Louisville Training School for Nurses, organized by an association of ladies, of whom Miss Jennie Cassady and Dr. Julia Ingram are leading spirits has accomplished a great work. The wards of the City Hospital have been so changed that operation wounds now seldom suppurate. The practical training of the nurses by a well educated superintendent insures competency to practice.

There are now four graduates of this school ready to serve the profession. The fee for services outside the hospital is \$14 per week; board and lodging are of course included. This is a very low rate for trained nursing, and the school is not yet able to supply the demand. Applications should be addressed to the superintendent or to Dr. Julia Ingram.

PUBLISHER'S DEPARTMENT.

W. C. DUGAN, M. D., Business Editor.
 ROGERS-TULEY COMPANY, Publishers.

*Address all matter relating to this department to the
 Business Editor, 235 and 237 Third Avenue.*

The Publisher's Department of PROGRESS is designed to afford the Business Editor proper space, in the regular order of our system of classification of the text, for such notices and comments as he may feel inclined to make of meritorious articles, and such items of news as may seem to him best calculated to interest the readers.

No house will, therefore, be able to purchase space in this department.

BEAUTIFUL CHEMICAL PREPARATION —
 A snow white mass of Caffeine, the active principle of coffee, (200 pounds and of great value,) is now on exhibition in the window of William R. Warner & Co., 1228 Market Street. This beautiful crystallization represents ten tons to coffee, and is used as an ingredient in the preparation of Bromo Soda prescribed for the cure of headaches, migraine, nervousness, sea sickness, &c. — *Philadelphia Inquirer.*

THREATENED ABORTION. — M. D. Makuna, M. R. C. S. Eng., License Medical University, Bombay, 1876, Trebeebut, Rhondda Valley, South Wales, says: I have much pleasure in expressing my satisfaction with the results I have obtained by the use of Aletris Cordial. One of my patients who had miscarried three times previously took Aletris Cordial during the last three months of pregnancy, and was delivered of a fine, healthy boy. I ordered at at her own solicitation, as she expressed so much ease and comfort after the use of the first bottle. I am now giving it to two more patients who have miscarried several times before, and I am in hopes of good results. I consider it a valuable addition to the Pharmacopœia, on account of its antispasmodic and nerve-tonic properties, and I should not like to go without it.

As a mild, agreeable laxative and aperient, the syrup of figs is one of the best in the market.

WE take pleasure in calling physicians' attention to Parke, Davis & Co.'s "Normal Liquids." These "Liquids" are of uniform strength, always containing a definite amount of the active principal of the drug.

FAIRCHILD & Co.'s TABLETS OF PANCREATIC PEPSIN and their various combinations are convenient and reliable in the treatment of gastric and intestinal disorders of the atonic forms.

S. H. KENNEDY'S CONCENTRATED EX. OF PINUS CANADENSIS, as prepared by the Rio Chemical Co., is one of the best drugs in the treatment of chronic inflammation of mucous membrane.

TAFEL & BRO. have constantly on hand a full line of batteries, surgical and orthopedic instruments of very best quality.

ROBINSON'S HYPOPHOSPHITES is one of the best and most reliable preparations of that kind.

LISTERINE is one of the best antiseptics for internal and external use. Physicians will find it a very valuable cleansing agent for the mouth and teeth in typhoid conditions.

SEE RENZ & HENRY'S advertisement of "Hypnotic Fluid." They keep in connection with their large stock of drugs the rare alkaloids, chemicals and dyes for staining purposes. This is one of the oldest and most reliable drug houses in the Southwest.

FLEXNER & STADDAKER keep a full line of the latest medical books, and give liberal discount on catalogue prices.

PHYSICIANS desiring pure whiskey for medicinal purposes, see McKenna advertisement.

CARNRICK'S SOLUBLE FOOD is one of the very best for children who can't have a good wet nurse. It is also invaluable in many intestinal disorders.

PROGRESS

A Monthly Magazine for Students and Practitioners of Medicine.

"I HOLD EVERY MAN A DEBTOR TO HIS PROFESSION; FROM THE WHICH AS MEN OF COURSE DO SEEK TO RECEIVE COUN- TENANCE AND PROFIT, SO OUGHT THEY OF DUTY TO ENDEAVOUR THEMSELVES, BY WAY OF AMENDS, TO BE A HELP AND ORNAMENT THEREUNTO. THIS IS PERFORMED, IN SOME DEGREE, BY THE HONEST AND LIBERAL PRACTICE OF A PRO- FESSOR; WHEN MEN SHALL CARRY A RESPECT NOT TO DESCEND INTO ANY COURSE THAT IS CORRUPT AND UNWORTHY THEREOF, AND PRESERVE THEMSELVES FREE FROM THE ABUSES WHEREWITH THE SAME PROFESSION IS NOTED TO BE INFECTED; BUT MUCH MORE IS THIS PERFORMED, IF A MAN BE ABLE TO VISIT AND STRENGTHEN THE ROOTS AND FOUNDATION OF THE SCIENCE ITSELF; THEREBY NOT ONLY GRACING IT IN REPUTATION AND DIGNITY, BUT ALSO AMPLIFYING IT IN PROFESSION AND SUBSTANCE."—BACON.

VOL. II.

LOUISVILLE, KY., MAY, 1888.

No. 11

GENERAL MEDICINE.

THORACIC

MURMURS.

In Connection with Thor-
acic Sounds.
BY

JOHN B. ENRIGHT,

M. D.

Read to the Louisville Med-
ical Society April
19, 1888.

In this essay I shall use the term thoracic sounds to express the impressions received by the ear when the organs in the chest are performing their actions in a perfect way. And I shall use the term thoracic

murmurs to express the auditory impressions received when these same organs are acting in an imperfect manner. In this paper no cognizance shall be taken of the auditory impressions that are received when the art of percussion is practiced. So the term normal resonance or its morbid *confreres* increased and diminished resonance shall not appear in this production. The sounds and murmurs gotten by auscultation shall alone receive attention in what follows.

In order to fully understand the *pathological sounds* (murmurs), it will be necessary to consider as best we can the physiological sounds and the causes, *the acts*, that produce them. By doing this we will pave the way to a proper conception of the various murmurs that shall receive consideration. First, let me call your attention to the respiratory sounds, and later you shall be invited to consider the cardiac ones. On putting ones ear directly against a part of the thorax, where a portion of the bronchial tree is situated, a certain impression or a number of impres-

sions will be gotten. The impressions, emanating from healthy organs, we call sounds, and these sounds, as all other auditory impressions, have certain characteristics; among which may be mentioned quality, pitch and duration. Such a thing as sound without action as a cause is an impossibility. All actions produce sounds if we are only capable of perceiving them. Now respiration when performed, without being modified by the will, consists of two acts with no interval of rest following either of the actions. First, inspiration which is an active act and second, expiration which is essentially a passive one. In round numbers (twenty respirations per minute) each respiratory cycle requires about three seconds of time. About two-fifths of this time is taken by the act of inspiration, and the remaining three-fifths by the expiratory act. Both these acts produce sound, and other things being equal the expiratory sound should be considerably longer than the first one; but this is not found to be the case, at least this is so, so far as our sense of hearing is concerned. Notwithstanding the brevity of the inspiratory act it produces a longer and much more intense impression in the ear than its prolonged fellow complement; this is due to the intensity of the act itself. While the expiratory act is longer than the inspiratory one, still it is so passive that its resultant sound is so feeble that it is not heard, even by the most cultivated ear, for even so long a time as the inspiratory one which is produced by a shorter but more intense act.

So from what has been said we see that the inspiratory act is short, the expiratory act is long, and that the inspiratory sound is long and intense, while the expiratory sound is short and feeble. You may have noticed I have said nothing about vessicular murmurs. Nor should any one ever speak of them when considering respiratory sounds. What are usually called vessicular murmurs should be called vessicular sounds; the term murmur should never be applied to a physiological auditory impression. That be as it may, they are produced not in the tubes, but in the pulmonary vessicles, both inspiration and expiration aiding in their production. The quality of these sounds is soft, the pitch is low, and the greater part of a respiratory cycle constitutes their period of duration. Now then with this brief outline let us begin to examine respiratory murmurs, commencing with those produced by bronchitis. I believe all agree that bronchitis has two stages—a dry and a moist, and each of these stages has certain murmurs technically known as *rales*, mark me, a *rale* is a special murmur. It is a term in general use; but it should be banished, it should be allowed to become obsolete, it should be relegated to the oblivion of the past. In the *dry stage* we get sonorous and sibilant murmurs. These are heard during both inspiration and expiration. The former are heard in the large tubes, and the latter in the smaller ones, mark me, I do not say the smallest ones. The quality of a sonorous murmur is harsh, while that of a sibilant is shrill. Both are high pitched, but the pitch of the sibilant is much higher than that of the sonorous. The duration of these murmurs is measured by the rapidity of the respiratory acts. In the *second stage* mucous and submucous murmurs are heard, due to the presence of mucus in the large and smaller sized tubes. These murmurs have not the quality of harshness and shrillness that the sonorous and sibilant ones have. Both are soft and of low pitch, and their duration is also marked by the rapidity of the respiratory acts.

At the outset of this paper I stated that the term resonance would not be considered nor shall it be; but the term vocal resonance shall, for it is gotten by auscultation. By this term I mean the vocal auditory impressions gotten by the auscultator, while the one examined is uttering vocal sounds. These may be normal or modified. This modified vocal resonance may be increased or diminished. In bronchitis we may say vocal resonance is normal. The vessicular sound is not altered for the reason that the air vessicles are not involved in this disease.

In *capillary bronchitis* we get no sonorous, sibilant, mucous, or submucous murmurs, because the large and the smaller tubes the source from which they emanate are not involved; the seat of this disease is not in them. But we do get subcrepitant murmurs, and these are heard during both inspiration and expiration and throughout the whole course of the disease. These murmurs emanate from the smallest tubes; these tubes are different in structure, their epithelial lining is not like that found in the tubes of larger size; it is of the squamous variety. Subcrepitant murmurs are dry at least here, hence their quality is intensely sharp, their pitch high, and their duration is measured by the length of the respiratory acts.

These murmurs are heard on both sides posteriorly, and best at base of chest. Exaggerated vessicular sounds may be gotten from a portion of lung not so intensely congested. Vocal resonance may be diminished late in the disease due to the œdema. In *lobar pneumonia* we get various murmurs in each of its stages. In the *first stage* the vessicular sound is diminished, also that which is present is modified or masked by the presence of the existing murmurs. We get the murmurs that are usually termed *crepitant rales*, and these are heard only during inspiration. The reason of this is, that the inner surfaces of the vessicles being in contact due to the inflammatory process; the active act of inspiration forces the air to separate these surfaces with the resultant

murmurs already mentioned. These crepitant murmurs are dry, high pitched, and last only the length of the act of inspiration. Vocal resonance may be slightly increased.

In the *second stage* all vespicular sound is absent, and in lieu of vespicular breathing we may have bronchial breathing; and I may say in passing that this is the sign of signs in this stage of lobar pneumonia. The bronchial breathing, it goes without saying, is abnormal; but even so it consists of two acts the same as ordinary respiration. Now while in normal breathing we found that the expiratory act occupied about three-fifths of the time of a respiratory cycle; in this form we find it taking still more of the time of each respiratory revolution. Now this act is so abnormally long and intensified that it produces an expiratory murmur much longer in duration than the inspiratory one. Its quality is blowing in character, is of high pitch, and as already stated is prolonged in duration. I may state that this prolonged secondary act with its consequent lengthened murmur is due to the fact that in the bronchial tubes there are complete cartilaginous rings, and that these do not permit the otherwise elastic tissue of the tubes to force the air out. In a word they prohibit distention; and there can be no sudden rebound of the elastic tissue. Mark this: All mechanical tissues must be distended or extended before they can act. They have no intrinsic power of action in manifesting any of the economy's functions. In this stage of pneumonia we also get that special form of resonance known as broncophony. This is gotten only in bronchial breathing, and in the event the afflicted one is not able to phonate, but still can whisper; we get the bronchial whisper of authors. Vocal resonance is entirely absent in the consolidated part, and perhaps inappreciably increased in the sound portion of lung.

In the *third stage* as the liquifaction of the exudation takes place, we may get some very fine moist murmurs that may and should be designated moist subcrepitant murmurs.

In this stage we also may get the murmurs of bronchitis if this disease is present, and it usually is. As the process of resolution goes on all the murmurs disappear, the lung returns to its pristine condition, and again the vespicular sound is heard with all its gentleness, softness, and beauty of continuous regularity. In *lobular pneumonia* the vespicular sounds are modified and subcrepitant murmurs are usually present. There may be bronchial breathing, but its absence is the rule.

In the *first stage of pleurisy* we usually get a friction murmur, but not always; for the pleurisy may be interlobular or diaphragmatic, and when so we do not get the murmur spoken of. I must here enter an objection against calling the above murmurs friction sounds as they usually are, for the reason that they are not the result of normal actions. In this stage the vespicular sound is modified on affected side. In the second stage of pleurisy with marked effusion, the vespicular sound may be or is entirely absent on affected side, and is usually intensified on the sound side. Vocal resonance diminished or gone on affected side and is increased on the sound side. That special form of vocal resonance known as ægophony can sometimes be gotten in this stage. But in order to get it there must not be too much effusion; just sufficient fluid must be present to rise as a thin sheet between the visceral and parietal layers of the pleura. The perception of the patient's voice by auscultator through this fluid sheet is what is usually termed ægophony.

In the *third stage* we sometimes get a rough friction murmur due to the rubbing of the roughened visceral layer against a corresponding surface of the parietal layer.

Some speak of crepitant rales, *murmurs* being heard during this stage. I have never heard them, and if they are ever present I do not understand their manner of production.

In the *first stage of acute tuberculosis* the vespicular sounds are very much modified,

in fact may be almost completely masked by adventitious auditory impressions.

The respiratory murmurs are high pitched, the expiratory act occupies more of the respiratory revolution than in health, but is shorter in length of time, owing to the greater number of respiratory cycles occurring in a given time.

There may be bronchial breathing and broncophony, but their absence is the rule. As a rule vocal resonance is increased. In the *second stage* the vespicular sounds are still more masked. Mucous, submucous and crepitant murmurs are usually heard due to the presence of bronchitis and pneumonia. Vocal resonance is increased.

In the *third stage*, the stage of excavation, with a small, dry cavity, we may get what is known as cavernous breathing, and if these cavities contain a certain amount of thin mucus and debris, we may be able to get what is described as a mucous click, a *murmur*. mark you. With a larger dry cavity we get tympanitic breathing, and when cavity contains mucus we get large mucous murmurs. If the cavity is still larger and the chamber is dry, we get amphoric breathing, and if cavity is partially filled with mucus, especially if the tube opens into this cavity below the level of its contained fluid, we will get gurgling murmurs. All the auditory impressions gotten in these conditions are murmurs. The only other condition of a lung in which we may get any of the above murmurs, is in that condition known as bronchiectasis, a very rare affection not usually encountered. That special form of vocal resonance termed pectorilloquy is sometimes gotten in this stage of acute tuberculosis, but, as a rule, the sufferer dies before it can be gotten. The same may be said of the various murmurs already described as emanating from cavities. It is a rare thing in acute tuberculosis for cavities to form, the light has gone out, the soul has flown, and the bell has been tolled long before they have had time to form.

But in *chronic tuberculosis* it is different. We are usually able, if we examine carefully and often enough to hear all the murmurs that have been described as sometimes heard in the acute affection.

In *emphysema* the vespicular sounds are decidedly enfeebled for the reason that the air vesicles are more or less distended, the septa of same are usually completely obliterated, the integrity upon which depend the perception of vespicular sounds. The inspiratory act is short, shorter than normal and deferred. The expiratory act is slow and prolonged, likewise the auditory impression received.

Vocal resonance is increased. In the dry stage of asthma the vespicular sounds are modified, and here and there may be heard sonorous and sibilant murmurs which change about from place to place. In the moist stage mucous and submucous murmurs may be heard. Vocal resonance may be increased or diminished, depending on the presence or absence of emphysema. The rule is there is a certain amount of emphysema in most cases of asthma. In those cases where it is not present the vocal resonance is decidedly diminished. This is all I shall say about respiratory sounds and murmurs.

In the second part of this paper the cardiac sounds and murmurs shall receive consideration.

N. B.—Objection has been made against calling the normal respiratory auditory impression sounds. The objectors say these sounds are so soft and gentle that they should and are rightly designated murmurs; that the word murmur is never applied to a harsh sound. In reply I will say: What is more delicate than the oceans murmur when a gentle breeze is its cause? Why it would not wake a sleeping babe.

But there is a wonderful euphony about the murmuring of an oppressed people. Don't tell me the frenzied enunciations of a tyrannized people are gentle murmurs. They

murmur, they do it madly, they do it harshly, but, they cry, they murmur to heaven for vengeance.

HEMOPHYLLIA.

A Family of Bleeders.

BY

STEELE BAILEY,

M. D.,

Standford, Ky.

Read to the Central Kentucky Medical Association, April 18, 1888.

Mr. President and Gentlemen:

I have seen but one family whose tendency is to immoderate bleedings, spontaneous or traumatic, and to obstinate swellings of the joints. Fortunately

this affection is rare. It occurs but once in 10,000 new born children; with adults, who are predisposed, it may appear, in some form, at any time unheralded, as it is unwelcome, let the circumstances in life be what they may, and is known in the books as Hemophyllia. Laycock classes the hemorrhagic diathesis as a cachexia, an acquired modification of the constitution, but it may be found along with any diathesis, single or blended. There are no outward signs of its presence and it is only found out empirically. It is hereditary.

Contrary to the usual rule, the adult females of this family have been the subjects of cutaneous eruptions, such as purpura hemorrhagica, purpura scorbutus, purpura rheumatica, without connection with any other disease. Sometimes they would appear spontaneously, at others there would be prodromata, such as "stupor, cardiac palpitations and swellings of the joints." In a member, now forty years of age, I have seen a leukemia from severe uterine hemorrhage, from which she would not recover in weeks. Of the male members but two have had a petechia or vibices; yet from an ordinary cut or the extraction of a tooth, serious bleeding would ensue. A singular peculiarity of this malady is that the tendency is altogether from mother and grandmother, fathers do not transmit the habit. From the physiological (or pathological) fact, if it be one, the disease might be stamped out by intermarrying with those

who had no such blood dyscrasia. With this family I have seen scrofula, chlorosis; neuralgia, chronic rheumatism and many maladies; but from the continued fevers they have been singularly exempt. The mortality has been alone with infants in hemorrhage of the navel cord, varying in age from five to thirteen days, the children becoming extremely anemic with petechia and ecchymotic spots covering the body prior to death.

The last case coming under my care, and which suggested this paper, was born to Mrs. Robt. Ferguson on Saturday night, March 10, a boy weighing ten pounds, and apparently in a healthy condition. On Tuesday following I was hurriedly sent for to visit the baby, and found it in a marked example of purpurea neonatorum. The blood was exuding from the finger nails, from the helix, the lobe and the tragus of each ear, the surfaces of which when wiped with a delicate sponge presented no solution of continuity, there was no change from the norm in any way the blood was coming from the papillary layer of the corium, as I supposed, but what made it do so? The nurse in the early morning discovered it, she used soot as a styptic, but, of course, unavailingly. Symptoms of exhaustion quickly presented themselves; the face was blanched and wan; he was limp, the cry was almost inaudible, he was too weak to nurse but a moment at a time. A tumor was present on the back of the head, globular in shape, about the size of a lemon and soft to the touch. Had it been in the lumbar vertebrae it would have reminded one of a case of spina bifida. The fontanelles were neither more open nor full than usual in a healthy infant. The swelling of the occiput had come on during the night. I felt that a speedy doom awaited the little fellow, but laying aside compunction fears, and the theory that all operative measures have to be discarded in a blood cachecia, I, at first, to the exudation applied the perchloride of iron, afterwards the flexible collodion on lint. My

anxieties were gratified, the hemorrhage in a short time was repressed, there was no further trouble from the bleeding surfaces. By this time the blood pressure had been brought very low. The next afternoon I was summoned again to see the baby. This time the trouble was in the navel. The mother had tried the remedies that previously had done good, but now they were a failure. The question arose what next should I do? The cord was a fat one, cicatrization was well advanced, though the cord had not fallen. The blood was not coming altogether from the umbilical depression, but in the adjacent abdominal integument there was a solution of continuity, whose base looked fiery and from which there was an oozing.

All its clothing was saturated, the blood was thin and not inclined to coagulate. The patient more anemic than yesterday. We administered to him at once milk freshly drawn from the cow, strongly dashed with good whisky, all he would take of it. From the effects of this I saw a reaction quickly ensue; his pulse became fuller, his face suffused with a little redness, which was evidence of a latent vitality. Believing that to use iron locally as a hemostatic would be wasting time, and also having a doubt about the blood coming from the umbilical arteries and veins, and that to search for and delegate these vessels would be valueless, and also having tried in two infants, cousins to this infant, who very promptly succumbed; after the transfixing and twisting of a ligature in a figure of 8, I concluded to employ as a last resort, a solution of plaster of Paris, which I knew to be devoid of danger. Every crack and cranny was filled, the application being repeated time and again for hours when some of it was displaced by exudation. This had the desired effect. The following day petechia and purpuric spots were diffused over the body. The milk and whisky were continued. In a fortnight the occipital tumour had disappeared, as also the cutaneous eruption. There was no re-

currence of the navel bleeding, nor was there another drop from either the finger nails or the ears. We were glad to see the skin resume its healthy hue. However, the reaction was more than desired. A sharp fever came which changed the chemistry of the blood, but the *vis medicatrix naturalis* sufficed to dissipate the phenomena right quickly, and at this date he is apparently well. This was a fortunate termination of this rare disease, showing a survival of the fittest, and the first indication of a hemorrhagic diathesis and blood dyscrasia.

Is hemophyllia of the new born a distinct disease? What is its pathology? According to Piffard it consists in an effusion of blood from ruptured cutaneous capillaries, or possibly to diapedesis of the red corpuscles, without rupture of the vessel. Some have asserted that the blood was thinner than usual, that it has lost its normal coagulability; while others say the blood is normal, but that the capillaries are weakened, that is capillary innervation with dilatation and as neurotic remedies exert the greatest influence over the hemorrhagic dyscrasia, the nervous theory has many advocates and the one to which I am inclined.

The remote causes of the purples have been referred to debility of the nervous function, to enlarged spleen and a granular liver; to deficient or suppressed menstruation; in those who are run down or overworked; but, we see it sometimes occurring among people in the best of health. So the etiology as well as its anatomy, is a vexed question, partaking indeed of the caliber of Lord Dundreary's problem which "no fellar" can understand in its entirety.

The most carefully laid therapeutic schemes may be undertaken by the practitioner for the relief of the hemorrhagic diathesis. I believe there is no treatment, however, for the systemic condition in hemophyllia. Each case is a law unto itself, and must be managed on the improved principles belonging to the domain of experimental medicine.

TYPHOID
FEVER.

Its Special Treatment.

BY

J. M. CLEMENS,

M. D.,

*Professor of the Principles
and Practice of Medicine
and Clinical Medicine
in the Hospital Col-
lege of Medicine,
Louisville.*

Abstract of a lecture deliver-
ed March 24, 1888, report-
ed for PROGRESS.

Having discussed the general management of typhoid fever, we come now to the consideration of the special treatment.

We have been taught, and have accepted the teaching, that the specific germ of this disease enters the system by way of the alimentary canal; that in this tract it

finds the conditions most favorable for its rapid multiplication. We know that the characteristic lesions of the disease are ever present in this same intestinal tract. Here we have in the glandular structures, inflammation, necrosis sloughing, ulceration, etc. Whatever favors these pathological processes works detriment to the patient. By reason of the impaired tone of the digestive apparatus, food that has been taken has not been properly digested or assimilated, but is undergoing a process of decomposition by which it becomes not only better soil for the growth of the fever germ, but a direct irritant to the diseased Peyers patches—patches in a state of inflammation, necrosis, ulceration, if you please, in contact with which is filthy material in a state of decomposition. If this state of affairs obtains anywhere else in the economy, what are the indications? No one will hesitate to say “cleanse and disinfect.” This is rational and exactly what is indicated in the early treatment of enteric or typhoid fever. The question is as to the best method of accomplishing this. Recently the German school, represented by Wunderlich, Liebermeister, Friederich and others, have revived a treatment in vogue half a century ago, albeit, based on widely different reasons. They favor the early administration of calomel—before the ninth day—in doses of seven or eight grains three or four times daily for one or

two days. They maintain that subsequent diarrhoea is thereby diminished, the course of the disease is rendered lighter, sometimes aborted, and the mortality rate diminished. They give calomel “to remove the poison from the bowel as well as antagonize it.” Without basing this calomel treatment upon the theory we have adopted, it, nevertheless, to some extent, fulfills the indications we claim to be present “to cleanse and disinfect.” In these doses, calomel produces peristalsis, thus cleansing, imperfectly, the diseased intestine. By reason of a portion of it becoming converted (calomel as calomel is inert) into the bichloride, in so far it disinfects the bowel. For the purpose of clearing—cleansing the bowel, I do not believe calomel the best agent. As the percentage of it, which is converted into the bi-chloride, is uncertain and beyond the control of the physician, I do not regard it as the most reliable disinfectant. As a scavenger, thorough, soothing and reliable, possessing the valuable quality of being self-limiting in its action, I regard the Ol. Ricini in combination with the Ol. Terebinthinæ as the very best known agent for clearing the bowel in these cases; the mixture both cleanses and disinfects. The turpentine is not only admitted to possess valuable germicidal and disinfectant powers, but also a favorably modifying influence over the intestinal lesions.

To an adult male, I am in the habit of administering in the beginning of a case of typhoid fever

R Ol Ricini ʒi
Ol Terebinthinæ . . gtt xxx.

M. S.

In a convenient quantity of hot whisky toddy, to be preceded and followed by a small sip of raw whisky, sufficient to moisten the mouth and throat. Taken in this manner the medicine will scarcely be tasted. I do not hesitate to repeat this, if need be, in two to four days during the first and second weeks. During the third week, for

obvious reasons, purgatives of any character should be administered with caution.

Theoretically and practically, I greatly prefer the bi-chloride of mercury to the chloride or calomel as a germicide and disinfectant. The dose you determine upon is a definite quantity; this cannot be said of the active agent, when you administer calomel. It is easily taken in solution and in the dose of the one thirty-sixth to one-twentieth of a grain in a tablespoonful of water may be taken by an adult, or even a child of ten, with impunity for days at a time. Of course great caution should be exercised in prescribing and administering a drug of such potency, lest through ignorance or carelessness, or both, harm may be done by the nurse. The *tablet triturate* is really the most manageable and most accurate form in which to administer it, though it may be given in solution gr. $\frac{1}{36}$ of this solution fifteen drops represents gr. $\frac{1}{36}$ of the drug is given in two or three teaspoonfuls of water. I have never seen any ill effects from it, but on the contrary have repeatedly seen amendment and amelioration of all the symptoms under its use, the diarrhoea diminishing, the discharges become thicker and less offensive, the range of temperature materially lower, and defervescence by the fourteenth day.

Dr. J. K. Mitchell, of Philadelphia, some years ago, used with excellent results the nitrate of silver, later Dr. William Pepper advocated the same treatment, claiming that the good effect of the drug was exercised on the intestinal lesions.

For its germicidal and disinfecting properties, Iodine has, with good reason, been recommended, and good results claimed for it; one part of iodine to two parts potassium iodide in ten parts water, is used; of this three or four drops is given in a wine-glass of water every two or three hours and continued for some days. Carbolic acid in combination with iodine has been recommended by Bartholow and J. C. Wilson, of Philadelphia; they suggest from one to

three drops of a mixture of two parts tincture iodine and one of pure carbolic acid, be given in a wine-glass of ice-water, after food, every three or four hours. When the intestinal lesion is marked, especially if the tongue is dry and cracked, oil of turpentine in seven to ten drop doses in emulsion is indicated and is a valuable agent. A favorite prescription with me is,

R Ol. Terebinthinæ $\frac{3}{4}$ ss
Mucilage Acacia $\frac{3}{4}$ ij
Syrup of Tolu $\frac{3}{4}$ i
Listerine $\frac{3}{4}$ vss

Sig—Dessertspoonful every three hours.

This represents about eight to ten drops of the turpentine and may be given for several days continuously, without producing irritation of the kidneys or bladder. In fact, tolerance for this drug appears to be greatly increased in the typhoid state. Of course the prudent physician will watch the effect of any drug he may be administering, which may be capable of producing unpleasant results. *Hemorrhage* from the bowel, you will bear in mind, is generally announced by a sudden fall of temperature without other assignable cause. If not profuse and not repeated, hemorrhage may not require other treatment than perfect quiet and sufficient opium to prevent peristaltic action of the bowels. If further treatment be demanded, nitrate silver may be administered in quarter grain doses every hour until six or eight doses have been given, if necessary. Theoretically, belladonna, or rather its active principle, atropia, by reason of its power of dilating the capillaries thus storing and retaining the blood in the system is, in my judgment, indicated. This, notwithstanding the admitted fact, that the capillaries in the region from which the hemorrhage proceeds, are equally dilated with the remaining capillaries of the entire system. But when we reflect how insignificant the little tuft of capillaries here concerned, when compared to the vast system in which, by dilatation, the blood temporarily takes refuge, the rationale and propriety of the treatment must be admitted.

GENERAL SURGERY.

WHEN SHOULD
THE ABDOMEN
BE OPENED?

BY

A. W. JOHNSTONE,
M. D.,
Danville, Ky.Read to the Central Ken-
tucky Medical Asso-
ciation, at Lex-
ington,
April 18, 1888.

When I first joined this society in 1876, the reports of only two cases of deliberate invasion of the then sacred precincts of the abdomen could be found on its records. Since then, from time to time, with gradually increasing frequency, reports of

ovariotomies and other laparotomies have taken a rather important position, and to some of us have lately been the all absorbing topics of our meetings.

But in our zeal for description of the various technicalities and other minutia of the operations have forgotten that the vast majority of general practitioners have not only never done a laparotomy, but never either expect or wish, on their own responsibility, to attempt one, and thus have laid ourselves not only liable to the charge of monopolizing the time of the society, but of making ourselves insufferable bores.

What the general practitioner wants to know, is not how to make a preparation, but what it will do after the druggist furnishes it to him, and the most that he requires of laparotomy, is how many, and what particular kind of his cases can be cured by it.

Being a general practitioner, who has had some little opportunity of studying these operations at their fountain source, I thought instead of boring you with minute details of the cases I have just been operating on, that the most interesting thing for this gathering would be the capabilities of laparotomy in its present perfected state, so I have chosen for the title of my paper, "When should the abdomen be opened?"

I do not know a better guide through this immense field than to take each organ in its own historical sequence. Nowadays no

one—no matter how conservative—would dare dispute the propriety of an ovariectomy.

From McDowell, with his eight successes out of thirteen, to Tait, with his 139 between two deaths, its history is too familiar to you all for me to do more than mention it, and the only thing I have to say as to when an abdomen containing an ovarian tumor should be opened, is the *sooner the better*. This rule is almost absolute, the longer the operation is postponed the less the patient's chances for recovery.

What I mean by opening the abdomen, is ovariectomy in its strictest sense, for I believe the time is not far distant when he who, in the ordinary sense, *taps* an ovarian tumor, will lay himself liable to malpractice. The teachings of all most successful operators now are, never to meddle with an ovarian tumor in any way until you are ready to take it out, and do that as soon as possible after its discovery.

'Tis true that now and then we are called to neglected cases whose surroundings are so bad that removal to a more healthy point is necessary, or whose respiratory apparatus is so hampered by pressure as to make an anæsthetic dangerous, and to gain a little time we sometimes tap such cases, but the radical operation ought always to follow in a few days, so that tapping ought never to be thought of except as a very rare *preliminary* to ovariectomy.

Just how low a patient should be before we refuse to operate on her, is a question each operator must answer for himself. My rule has been to give the poor, dying creatures every chance they have, and thus the operation gets the benefit of the doubt. By this means—like every other operator—I have saved some very desperate cases, but as Greig Smith, in his terse way puts it, "operations on the dying, are apt to be quite unsatisfactory."

In regard to accidents which will occur to tumors, such as twisting of pedicles, inflammations, suppurations, ruptures, hemorrhages, peritonitis and the like, instead of

the expectant treatment of the last generation, we now know demand immediate removal; so that whenever any unusual symptoms develop in the course of a tumor, our rule is, no matter what they may be, to operate at once, provided, the shock is not so great as to make any additional disturbance certain death, even in these cases if any reaction takes place, our only course is immediate operation.

These same rules in regard to accidents apply to all tumors of the abdomen. We may lay this down as an invariable rule that no matter in what organ we may think the tumor has developed, if anything happens to it which threatens life it is our duty to immediately open the abdomen, and do all we can to repair the mischief done.

These accidental things, the most common of which is suppuration, furnish a very considerable proportion of hysterectomies done, but as this introduces us to the subject of operations on the nongravid uterus, I cannot do better in giving the rules when to do these operations than to copy Keith's indications as given on page 201, of that most invaluable book of Greig Smith, on abdominal surgery.

“First—In very large, rapidly growing tumors of all kinds in young women. By a large tumor I mean a tumor upwards of twenty pounds.

Second—In all cases of real fibrous cystic tumors, if they can be removed, also in all cases of suppurating tumors, in most cases of the œdematus tumor, these often grow to an enormous size, far larger than any ovarian tumor. I have seen one that would not be less than two hundred pounds in weight; sometimes large quantities of red serum can be removed with much relief. I have several times been able by this means to carry patients over the menopause, when the necessity for puncturing ceases.

Third—These tumors seem to open up the broad ligaments, more than the ordinary hard tumor. Some that I have removed have had very extensive pelvic attachments.

These tumors are much reduced by free purgation.

Fourth—In cases of large bleeding fibroids of any age, provided the patients are not approaching fifty years of age, and provided the lives are practically useless, and that further experience in the operation shall show that the mortality of hystorectomy is likely to diminish.

Fifth—In certain cases of tumors surrounded by free fluid, the result of peritonitis, provided the fluid shows a tendency to re-accumulate after two or three punctures.”

This, gentlemen, is the opinion of not only the most successful operator in hysterectomy, but at the same time the most conservative man in the whole field of abdominal surgery, and he is Thomas Keith, of Edinburg. His mortality is the lowest of all, by a small fraction, and that is about eight per cent. Close on his heels, however, come Bantock, Tait, and Thornton, in England, with Schroeder and Martin, not so very far behind in Germany.

Thus there can be no doubt that hysterectomy already has its established place as a life-saving measure, and that in properly selected cases, an operator will be to blame who would refuse to give the poor creatures their only chance for life. 'Tis true the proper kind of cases are rare, and many practitioners may live a whole life-time without seeing a suitable case for the removal of the uterus; the œdematus and fibro-cystic tumors are especially so.

Happening to have a specimen of the former on hand, I have brought it with me to-day, that you may have an idea of how closely they approximate the sense of fluctuation. I opened the abdomen which contained it almost eight weeks ago, expecting to find one of three things, either a small ovarian tumor with a short pedicle, an œdematous myoma, or a carcinoma of the fundus, and this specimen is the result. The patient I am thankful to say is convalescent.

While we are on the subject of operations

on the uterus there is one other view I would like to express, and that is as to the future of the Porro and Caesarian section, which is, that they are destined to largely encroach on the field in which the cranioclast has heretofore been used. Take a strong woman who has not been broken down by a tedious ineffectual labor, and who as my beloved teacher Lawson Tait expresses it, "has not been mauled to death with a cranioclast," her immediate chances in a poro are not so very much worse than they would be in an ovariectomy.

We forget in dealing with this class of deformed creatures in which embriotomy has to be resorted to, the delivery of one child is only a temporary relief, and the probabilities are it will only be a very short time until we are called to a repetition of the danger, so it seems to me much more humane, in those very narrow pelves to deliver her of one living child, and by the procedure protect her from the recurrence of this terrible danger, it is in my belief the cranioclast will ultimately be limited to the management of monstrosities.

Next to tumors of the ovary and uterus, the most common enlargements we meet with are from the kidneys, and they are especially liable to the accidents we have spoken of, such as suppuration and the like, and if we wish success in their management, the more prompt we are with our operation, the more satisfactory will be the result.

Many of these, however, are not laparotomies in the strictest sense, because we can frequently manage them without opening the peritoneal cavity, but in dealing with them, we ought never to hesitate to open the peritonium when necessary, because in most cases thorough drainage or removal of foreign bodies is what we are after, and unless that object is fully accomplished, the patient had best be left to her fate. When it becomes necessary to enucleate the whole of the kidney, the loin ordinarily does not give room enough, so that most generally it has to be done through the peritoneal cavity.

Fortunately for us hydatids are almost unknown in the United States, and the consequence is we need never expect to have as many liver operations in this country as they do in the old, but my belief is that abscesses are much more common in Kentucky than we have ordinarily been taught to believe. I have seen five in Kentucky since 1876. One of them I drained. The case did well, and the wound healed by the end of the month, two weeks later her customary menstrual, spitting of blood came on, which had been her habit for the last six or eight years, but at this time became perfectly uncontrollable, and in about six weeks from the time of the operation she died. The post mortem was refused, but it has been my firm belief that an ulcer of the stomach was the only thing which could have given vent to such immense quantities of blood. The teachings now are, whenever an abscess of the liver can be reached through the abdominal wall, it should be promptly drained in that direction, as many of the abscesses are so high up in the convexity of the liver we cannot reach them through the abdominal cavity. Some operators are approaching them through the plura, with what so far seem to have rather promising results.

That once most hopeless of all diseased organs—the gall bladder—now, thanks to Tait, we consider a comparatively safe organ to treat. Emptying it of its contents and drainage, has long since ceased to be an experiment, but is rightly classed as one of the surest of life-saving operations of the abdomen.

I have had one such operation of my own and assisted Mr. Tait in quite a number, and I have yet the first fatal case to see, so that whenever we have a history of the repeated passage of gall stones, and especially the lodging of one, or anything like a well defined suppuration of the gall bladder, no matter from what cause, 'tis our absolute duty to interfere as promptly as possible. In my case I found no stones, but an enormously enlarged and thickened gall blad-

der, containing about a tea-cupful of pus. Coincident with a low hepatitis, drainage soon improved the inflammatory conditions, and in the course of a few weeks constitutional disturbances almost disappeared. The opening left to itself had nearly closed, but I am sorry to say he could not resist the bouliæmia which generally goes with that sort of cases, and as soon as he began going about and feeling better, resumed the enormous eating of his better days. The result on the liver of this overcharged blood stream was a return of the suppuration and other constitutional disturbances. I re-enlarged the opening, however, and replaced the drainage tube, and from last reports he was again improving.

Cysts of the pancreas are rather rare. A drainage is about as much as they usually require, but should be done as promptly as possible. Operations on the spleen with but few exceptions had best not be done. The drainage of its cysts, which I am happy to say are extremely rare, are the only ones we are warranted in attempting. Those of the omentum and mesentery had best be dealt with in the same way. Sub-peritonæal cysts, which generally develop from remnants of the urachus, are quite satisfactorily dealt with by through drainage. I had one that was suppurating which contained about three gallons of purulent fluid, and occupied almost a year in its convalescence, but is now on foot, and told me the other day she had gained forty pounds since the operation.

Thus, gentlemen, I have about covered the ground from a clinical standpoint of new growths of the various organs of the abdomen, and interesting as it would be to devote sometime to the differential diagnosis, I must pass it with a mere mention; but we cannot err, if we follow the safe rule, that when we are sure the tendency is to death, to open the abdomen and do the best we can with whatever enlargement we may find. In this field as in every other branch of surgery we must keep in mind that every now and then, we will be disappointed in our

hopes by what at the time of the operation looked like a simple benign tumor, in the course of a few months turns out to be malignant, but this need not deter us from removing malignant tumors, which we happen on just as we would in any other part of the body, for while it is small, still there is a proportion of truly malignant growths which do not return after removal, and as I have shown by an article printed in June, 1887, of the *Pittsburg Medical (Pa.) Review*, all pappillomatous tumors are by no means malignant; some of them are nothing but ordinary benign warts, and histologically are the same thing for the peritoneum, that the mucus polypus is the endometrium; left to themselves death is sure to follow, but when operated on, they give some of our most satisfactory results.

Turning from new growths to the inflammatory conditions of the peritoneum, we approach what was rightly considered the most hopeless condition that flesh is heir to, but we state most positively in the beginning of this topic that peritonitis, the condition to which they all tend, should always be drained. If there is an exception to this rule, it is what is known as the dry peritonitis, but as I have a doubt even of the existence of this condition, a well defined case of peritonitis to my mind nearly always means a greater or less quantity of poisonous fluid, which from its peculiar facilities for getting into the circulation becomes extremely dangerous, and in my opinion ought to be gotten rid of as soon as possible. It makes no difference what causes this accumulation, it ought to be gotten rid of, and means adopted as far as possible to prevent its accumulation. In one case which under the old regime, would have been labeled "negro consumption" and allowed to die, a drainage tube after a laparotomy completely cured a tubercular peritonitis, and the woman now fat and hearty, is presiding over the kitchen of a large family.

Another, after having repeated attacks of peritonitis and resisting all entreaties for a

laparotomy, until such profound shock came on as to show that death was rapidly approaching, a laparotomy and a drainage tube relieved her, not only of a bursted fallopian tube containing a three months placenta, a foetus, a hat full of clots, but completely cured the peritonitis. These are only illustrations of the causes of peritonitis, for to my mind an iodpathic peritonitis does not exist, but that it is always due to some foreign substance getting into the cavity, so in my opinion, a clearly defined peritonitis stands a much better chance after a thorough cleaning out of the cavity.

As I have already indicated in speaking of operations on the liver, suppurations of any abdominal organs should be a positive indication for a laparotomy, and here let me say that the one mistake which is more commonly made by general practitioners than any other, is the confounding of a Septicæmia with some form of a malarial fever.

The intermittent and remittent types of septic fevers have long since been fully established, and every stubborn case which presents these characteristics, especially if it have an abdominal tenderness associated with it, should be very carefully searched for a latent suppuration, for as many of you know of other regions, a lancet has cured a remittent, which ounces of quinine had failed to touch.

The organ in which we most frequently find pus, is the fallopian tube, and in city practice the cure of suppurating salpingitis forms quite a large proportion of the abdominal surgeon's business. In country practice, however, we see very little of it. The only reason for this that I know of is, that gonorrhœa is directly in proportion to the density of population. The damage that ordinary plastic inflammations do to the appendages, is found alike in the practice of both the rural and the metropolitan operator. What the American school has so long been taught to believe is pelvic cellulitis is nothing more nor less than a general inflammation of all the pelvic structures of which the tube

generally has to bear the brunt. As I intimated in the *Medical Press and Circular* of March 3, 1886, I do not believe there is such a thing as simple pelvic cellulitis, and whenever it does exist, it is merely as an extension of an inflammation from some more important structure.

The simple acute pelvic inflammation I do not think demands the removal of the appendages, for I am sure that I have treated many cases, which have run a course very analagous to pneumonia, and have resulted in complete resolution, but like the old chronic pluro pneumonias, there is a small proportion which result in suppuration, and a still larger proportion which terminate very much like the adhesive forms of pleurisy. We all know how uncomfortable an old pleuritic stitch can make one. If these adhesions are applied to the tubes and ovaries, instead of the costal and visceral pleurae, anyone could easily see, not only how painful they would be, and how excruciatingly so during the menstrual congestion, but also how absolutely sterile the organs must have become. Given this condition, it not only becomes our privilege but the absolute duty, if not a mother, to at least make her a comfortable and happy human being.

One of the most awful accidents which ever happens as a result of this damage to the appendages, is extra uterine pregnancy; and all I have time to say about it now is, that as the vast majority of them are discovered before the fourth month, immediate extirpation of the whole tube is the only thing that should be thought of, no matter what its condition. After the fourth month though, until the ninth, operators very widely differ as to what should be done. I think, however, if I am ever called upon to direct one of these cases that I shall open the abdomen as soon as possible, no matter what the state of the pregnancy. My aim would be to remove the whole of the placenta, for I believe the risk of leaving it to suppurate and come away piece-meal, would be far greater than the chances of ligating its blood

supply, and removing it in a mass, so that it is always in our favor to get hold of the placenta when it is as small as possible. Next the suppuration about the appendages, the most commonplace in which we find pus, is in the perityphlitic ariola tissue, and whenever we are sure that pus has formed, we ought unhesitatingly give it vent. Sometimes it is far back behind the colon, and quite hard to reach, but if it exists, it is our duty to find it, for nothing short of its evacuation can possibly save our patient's life.

Ulcers of the intestines, like gun-shot wounds, punctures, ruptures, and all other traumatisms of the alimentary canal, which produce an escape of its contents, and the consequent peritonitis cannot be dealt with too promptly, for all such cases without surgical assistance are doomed.

With one exception I do not think the abdominal surgeon has any right to meddle with new growths of the alimentary canal.

In theory it is all very pretty to extirpate a cancerous third of the stomach, or a carcinomatous sigmoid flexure, but practice has shown that these operations result in little but disappointment to both patient and operator. Leaving out the rectum, the only operation for relief of the intestinal new growths, which has been of any value, is lumbar colotomy. Operations for obstruction of the alimentary canal have heretofore been rather disappointing, but the chief reason is the same as that which makes the high mortality of herniotomy-procratination. I don't think we ought ever to leave a patient after we are tolerably sure there is an organic obstruction, until it is relieved. I was called to one on the eleventh day of strangulation, and as might have been expected, found the cæcum just about to slough from the strangulation of a false band.

Intersusceptions should be equally promptly looked after, but in this as in many other conditions of the abdominal cavity, if we wait until we make a diagnosis, the patient will slip through our fingers. One of the

most striking instances of this I ever saw was in a case of a four foot intersusception of the large bowel. There had never been an obstruction, and except for a small lump, which could be found in the left hypochondriac region, the only symptoms were those of colic.

It was perfectly apparent though, after watching for several weeks that it would be fatal if left alone. A laparotomy was done, the intersusception reduced, and since, the patient has now had a full year of housework. There are many other points that would be of interest to discuss, both as to some moot points which even operators are not yet fully decided upon; such as epilepsy, interstitial-overitis, cancer of the body of the uterus, and the like; but I fear I have already consumed too much of your valuable time, and in closing let me state that it is my belief that in perfectly healthy subjects the mortality of properly done exploratory incisions would not be one-fifth of one per cent., and if I can convince you that all that is important is to be sure your patient has an otherwise incurable trouble, and that it is not necessary to complete your diagnosis before the exploration is made, I will feel this half hour has not been misspent.

<p>BROMIDE IN CATARACT OPERATIONS.</p>	<p>Dr. McKeown, of Manchester, advocated the use of full doses of bromide of</p>
<p>potassium in "Eye operations" in addition to the use of cocaine locally.</p>	
<p>He says immunity from pain is not enough for the nervous and frightened child, in order to operate satisfactorily and successfully its fears must be allayed. He gives his patient a full dose of bromide and operates during the quiet that ensues. He reports a case of double congenital cataract operated on first by needling and afterward by linear extraction. Cocaine was instilled and the bromide (40 grs.) administered internally, the operation was performed without difficulty, afterwards an attempt to tear the capsule without bromide was unsuccessful.</p>	

THE INJECTION
OF PILES.

*The Present Status of that
Practice.*

BY

JOSEPH M. MATHEWS,

M. D.

Professor of Surgery, etc., in
the Kentucky School
of Medicine.

For a number of years the injecting of internal hemorrhoids with carbolic acid, seemed to be a favorite plan with many in the profession. Being a discovery of the quacks, it soon found favor with the laity, more because of its

secrecy than from any merit. After the remedy was exposed, the profession was able to give it a fair test. Many, for a while, were inclined to look upon it with much favor for the reason especially, that it was so easily practiced. After a few reported accidents, thoughtful men began the real study of the subject, the *modus operandi* of cure. After a sufficient length of time had elapsed for a thorough trial, the writer took occasion to record his objections in an article read by him before the Kentucky State Medical Society in 1878. In said paper the position was taken that the injecting of piles with carbolic acid was a dangerous procedure; that by the plan much inflammation was excited; the pain in the majority of instances was very great and prolonged; that dangerous hemorrhage was to be feared; that sloughing was the rule, hence ulceration, stricture, etc., would follow; that death might occur from hemorrhage, embolism, or septic trouble; that in no case could a radical cure be pronounced. After an elapse of ten years we find that these predictions have been verified. Dr. Andrews in his late work on diseases of the rectum, p. 9, 24, says: "The following accidents have been reported to us out of about 3,304 cases: Deaths, 13; embolism of the liver, 8; sudden and dangerous prostration, 1; abscess of liver, 1; dangerous hemorrhage, 10; permanent impotence, 1; stricture of the rectum, 2; violent pain, 83; carbolic acid poisoning, 1; severe inflammation, 10; sloughing and other accidents, 35.

Of course this was an indiscriminate collection, and the half was not told. The quacks would not communicate their bad successses, hence much of this table was from accidents and results so plain that the profession ascertained them. What a contrast this showing is with other methods, especially the ligature. Allingham reports thousands of cases without an untoward symptom, and no death. Other authorities are of the same good report. Kelsey, of New York, who, a few years ago, was inclined to advocate the injection plan, now says of it: "I also venture to predict that as a popular quack remedy it has seen its best days; for the reaction in the public mind has already begun, and when a year ago every patient was determined to have nothing but carbolic acid, they now not infrequently are just as anxious to have nothing to do with it." Mr. Ball, of Dublin, who has just had issued a most excellent treatise on diseases of the rectum, only says that the plan has been tried in America, but with poor success. The writer begs to say that what was said by him in 1878, he affirms in 1888, after a special practice during these years upon these diseases; the remedy came in on a wave, it has been weighed in scientific scales and found wanting, and the conclusion to be drawn is, that the profession stands guard, always on the alert, to protect the people from the impositions of the quacks.

DR. EDWARD

LORING.

Dr. Edward G. Loring died suddenly in the street in New York

on April 23. Dr. Loring took his medical degrees from the medical department of Harvard University, in 1864, and went to New York, where he was associated in practice with Dr. Agnew, whose death happened only a few days after his own. Dr. Loring had been for many years surgeon to the New York Eye and Ear Infirmary and had achieved great distinction as an ophthalmologist.

EYE, EAR, AND THROAT.

HEREDITARY
RETINITIS
PIGMENTOSA.

BY
S.G. DABNEY,
M. D.,
*Professor of Physiology and
Clinical Lecturer on dis-
eases of the Eye and
Ear in the Hospital
College of Medicine,
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to the Eye and
Ear depart-
ment of the
Louisville City Hospital.*

Reported to the Louisville
Medical Society, April
26, 1888.

On the 12th of April Mr. Gideon Brown of Hardin county, Ky., presented himself at my office. He stated that he was 58 years old and a farmer by occupation; that from his earliest childhood he had been unable to see in the twilight or by any faint illumina-

tion and that though he could see any object at which he looked directly fairly well, sight for surrounding objects had all his life been steadily diminishing, until now his vision was limited to a very small area. He further stated that his father had been affected in just the same way; that he himself had 14 brothers and sisters, of whom 3 brothers and 1 sister were subject to the same disturbance, as were also his son, 27 or 28 years old, and this son's son, now about 5 years old.

Externally the eyes appear normal. V. R. E. $\frac{20}{50}$ V. L. E. $\frac{20}{200}$ On neither was improvement to be had with glasses

Oblique illumination showed first, post: polar cataract in each eye but more marked in the left.

Ophthalmoscopic examination revealed, in addition, a far advanced Retinitis Pigmentosa with partial atrophy of each optic nerve.

The most interesting feature of this case is the very marked hereditary distribution of the disease; our knowledge of this, it is true, rests upon the statements of the patient, but with symptoms so peculiar, and so exactly related, it seems unlikely that he was mistaken. I did not use the perimeter, but comparing his field of vision with my own, found it almost limited to central vision.

No intermarriage of relatives in the case of parents nor grandparents, nor any trace

of inherited disease, other than that in question, could be ascertained.

Retinitis Pigmentosa is an incurable disease; beginning in early life with Hemeralopia (very defective sight in twilight or by any poor illumination), it is soon attended by a progressive diminution of the field of vision which steadily, though very slowly, increases until the patient becomes unable to move about alone, and sees as if he were looking through a narrow tube.

As regards its causation, Meyer says:—"The ætiology of this disease is not known; it often appears in several members of the same family as if it were hereditary, and sometimes is coincident with idiocy or deaf-mutism. A certain number of children affected with the disease are the offspring of consanguineous marriages; others seem to be the subjects of hereditary syphilis."

Such are the views generally expressed by other authorities.

Atrophy of the optic nerve and post: polar cataract are not uncommon consequences of the later stages of Retinitis Pigmentosa.

DISTINCT AND
INDISTINCT
VISION.

BY
JAMES JURIN,
LONDON.

An appendix to "a complete system of opticks," by Robert Smith, L.L. D., Professor of

Astronomy and Experimental Philosophy, at Cambridge, and Master of Mechanicks to his MAJESTY," Cambr.dge, 1738.

Continued from April Progress, Page 467.

For since each star appears under such an angle as answers to twice the *radius of dissipation*, by Art. 61, if two stars are less asunder than that angle, the two radii will meet in the middle, and part of the two *faint false images* will coincide, and where they coincide will be nearly twice as luminous as the rest of the image, so that

the two stars will have the same appearance as if one brighter star appeared in the middle of the place, which is taken up by the two stars.

65. After the same manner two small

circular objects seen very near, as two points in printing, may appear to run into one another, and compose a stronger image in the middle, when the *radius of dissipation* much exceeds the diameter of the objects. As the two points *a, b*, in Fig. 24, when seen very near, put on the appearance *A*, Fig. 26, or *B*, Fig. 25.

66. A star approaching very near to the edge of a planet may appear within the limb of the planet, just as if the planet were transparent and the star were seen through it.

Let the circle *ABD* Fig. 27, represent the Moon, and let *c* be a fixed star very near it, as within 8'' or 10'' of the edge of the Moon.

Then, I say, the star will appear within the limb of the Moon, as in Fig. 28, where *c* represents the star and *FGH* the limb of the Moon.

For in Fig. 29, let the circle *CABD* represent the *true image* of the Moon upon the *Retina*, and concentric with this draw the circle *CFGH*, at the distance *AF* equal to the *radius of dissipation*. Then by Art. 20, the circumference *FGH* will appear as the limb of the Moon; and if the point *c* be taken very near to the circumference *ABD*, and from this center, with the *radius of dissipation cf*, be drawn the circle *cfg h*, that circle, by Art. 61, will represent the image of the star upon the *Retina*; but that image will be almost wholly comprehended within the limb *G F H*. Therefore the star must appear within that limb.

As for the circular segment *fg*, which is without the limb, it will be insensible to the eye, both because of its smallness, and because the limb of the Moon itself is not even.

But as the *faint false image* of the star, when invironed with so strong a light as that of the Moon, will for reasons hereafter to be given, Art. 220, contract itself from the circle *cfg h* to a lesser circle as *c m n o*, the star will appear not only within the

limb of the Moon, but at a considerable distance within it.

67. This accounts for the observations^a Schickard speaks of in the following passage: *Cytnhia enim, quando stellis appropinquat, cernitur advenientes amplecti & aliquantulum intra peripheriam perspicudm admittere; ultrinsecus vero exeuntes visui reddere prius quam pervenerint ad oram: quod* Maestlinus *exemplo Martis, item Cordis Scorpionis animadvertit Anno 1595. Disput. de pass. Planet. Thes. 158 unde collegit, quodam diaphano velut aere ambiri: sed hæc experientiæ ulteriori relinquo.*

68. After the same manner we may account for *Mars* or *Venus*, &c. appearing within the limb of the Moon.

69. The same appearance of a star within the limb of the Moon may happen in viewing the Moon through a telescope, if the telescope be not good, or the eye of the observer have not the exact conformation necessary for *Perfect Vision*.

For though the object appear sufficiently distinct through the telescope, yet if there be not *Perfect Vision*, which by Art. 8 may easily happen, there must be a *circle of dissipation*, and the radius of the *faint false image* of the star must not be greater than the *radius of dissipation*, by Art. 61, and the ring between the *true image* of the Moon and its apparent limb must be equal to the same radius. Consequently the image of a star may appear within that ring, that is, within the apparent limb of the Moon as well as if the ring and the *faint false image* had both been greater.

This may account for the observation of *b Pere Feuillée*, and likewise for that of *c Mons Delahire*, who both saw a star within the Moon's limb through a telescope, and the last named gentleman has touched upon the true cause of that *phænomenon*, as Mr. Horrox, and more especially the incomparable Galileo had done before him.

^a Respons. ad Gassendum.

OBSTETRICS AND GYNÆCOLOGY.

MANAGEMENT OF
NATURAL LABOR.

BY

A. D. PRICE,

M. D.,

of Harrodsburg, Ky.

Read to the Central Kentucky Medical Association,
at Lexington, April 18, 1888.

Man comes into the world helpless, goes through it violating the laws of health, and suffering the penalty, and passes to the life beyond in a condition that calls for the sympathy of

loving friends and demands the ministrations of those consecrated to doing good to their fellow man.

The physician's duty is then great and extensive, reaching from the dawn to the close, from the beginning to the end.

He not only cares for the mother in the throes of labor and renders the necessary attention to the helpless infant, but, with the highest and noblest aims, strives to teach his fellow-man how to observe and obey the laws of health that a long life, with its joys and blessings may be attained, and when death can no longer be stayed, is ready, and more than willing, to relieve its pangs and let the spirit go in peace to the place whence it came.

We have but to look around us anywhere in this broad land of ours and be reminded by the sickly children we see, by the youths falling by the wayside, by men and women filling untimely graves, by the young mother struggling to regain health after her first-born has come to gladden and cheer the household, that the profession is but entering upon the discharge of these duties, just beginning that great mission that promises so much to mankind.

Who, better than the physician, can counsel and advise, watch over and instruct the young and growing girls and see that the follies of a fashionable life, the evils of a vicious system of education, and the foibles of perverted tastes are not permitted to weaken, undermine, or wreck the body and

mind of those destined by infinite wisdom to become mothers.

Who, more than he, has the right to teach the holy doctrines of pure air, outdoor exercise, good and wholesome food, proper clothing, freedom from care during childhood's tender years, a wise and beneficent method of education by which the mind is prudently, gradually and cautiously developed and taught to think and reason correctly—a system not calculated to crush body and mind, and prepare the young early victims for the grave or send them on life's journey struggling to maintain existence, unable to properly perform its duties.

When the chains of superstition are broken asunder, and the clouds of ignorance brushed away, and the light of science sheds abroad the rays of knowledge, and people learn how to live so as to develop and preserve body and mind in accordance with the laws of nature, then woman will be better fitted for the great mission of child-bearing, but the responsibilities of her medical attendant will still be severe and exacting.

Your attention will be directed in a cursory manner to a few of the prominent features of the management of natural labor, and then a cordial invitation given you to receive, if you have not already done so, the glad tidings of the new gospel asepsis in obstetrics, and urged to carry it with you to the bed-side, to practice it with all the enthusiasm of the neophyte that your crown of glory may be full and your reward such as is due every good and true physician.

The accoucheur's responsibility is by no means trivial. He holds in his hand the lives of two human beings; and the happiness of others hangs upon the result of his work.

That his duties may be fully and properly discharged and the patient put in the most favorable state for the ordeal through which she must pass, he should have supervision of her for as long a time as possible, before confinement, studying her tempera-

ment, observing her peculiarities, and gaining knowledge of such pathological conditions as may exist.

He should go to the bed side clean as regards his clothes and person, and prepared for any emergency that may arise, thus often saving valuable time and avoiding much confusion and many dangers.

What should the obstetric bag contain? The instruments necessary for the delivery of the child when occasion demands; needles, ligatures, etc., for the repair of the maternal lesions; chloroform, ergot, and such remedies as are useful in post-partum hemorrhage.

It should also contain the following: Bichloride, of mercury to make an antiseptic solution, carbolic acid, to disinfect instruments, a syringe clean and in good working order, a nail-brush, to be faithfully used by medical attendant, carbolized vaseline, to take the place of the time-honored cup of lard so apt to carry infection with its use, iodoform to dust bruised and repaired tissues, carbolized oil to lubricate catheters, and antiseptic cotton to take the place of sponges. With a little care and foresight the obstetric bag can be kept properly prepared and ready for use.

The physician's first duty after being summoned to the patient is to establish the fact of pregnancy if it has not been done before; he then proceeds to determine the presentation of the foetus and the relations it bears to the maternal parts which it must pass. This may be done by palpation or by vaginal examination. The former requires practice and experience to make it sufficiently accurate, and has in its favor the freedom of the danger of infection; the latter is in more general use, and is liable to carry microbes to a region where they may do great harm unless hand and vagina are rendered aseptic.

If unable to determine the position of the child by the above means, and the condition of the patient is such that she requires prompt attention, use chloroform and in-

troduce the aseptic hand or as much of it as may be necessary, and obtain the requisite information, at the same time acquire knowledge of the normality, or a departure therefrom, of the parturient canal, that dangers may be avoided, or at least, not have them come unawares.

The first examination should be thorough enough to accomplish its object, and subsequent ones like Angel's visits be few and far between.

It is well to remember that the pregnant woman approaching confinement may be the subject of false-pains, and to be able to distinguish these from true ones will save much time and often a large amount of chargin.

Relieve the bladder and empty the rectum. Let it be the rule to introduce the catheter and to empty the bowels by enema regardless the assertion of patient and friends that these organs have been thoroughly relieved.

Should the anterior lip of the cervix be impacted between the head and the pelvis liberate it by gentle pressure upwards between the pains.

Discountenance the voluntary bearing down pains so often, fearfully and persistently made by patient, and so assiduously encouraged by the female attendants. They result in exhaustion and general muscular soreness that often persist for days, and are not only unnecessary but frequently harmful. Save the membranes unruptured till the os is fully dilated, unless there is some good reason demanding the escape of the liquor amnii before this desirable object is attained. Do not dilate the cervix with the fingers or instruments unless there is an imperative necessity to do so. Preserve its integrity if possible. This, however, is not always easy owing to diseased or cicatricial tissue, to an edematous condition from prolonged labor, to an abnormal position, to marked rigidity from various causes. Much, however, may be accomplished by a wise non-interference, by preserving the membranes unruptured,

by banishing the use of ergot from this stage of labor altogether.

Cervical rigidity will sometimes be so marked and persistent as to greatly or altogether, impede labor. The hot vaginal douche, chloral, morphia hypodermatically, atropia injected into the cervical tissue, chloroform, dilatation with fingers or Barnes' bags, will usually bring relief. These valuable means will, however, sometimes fail as they once did in the writer's experience.

A primipara aet. 40 years, had her labor to commence by the sudden discharge of the liquor amnii. A most rigid cervix was encountered resisting the means above enumerated; by persistent effort dilatation was effected sufficiently to permit the introduction of the forceps with the greatest difficulty. There was no further dilatation. Traction brought down child and uterus together. The safety of mother and child demanding prompt attention, the head, together with the uterus, was brought down by gentle traction till it rested against the perineum where it was securely held by the forceps and the cervix forcibly pushed upward with the fingers, a bilateral laceration resulting. The child was born alive, and the mother recovered without the least unpleasant symptom.

How shall the perineum be managed so as best to preserve its integrity? The ingenuity of man has devised many measures to accomplish this much desired object. It has been stretched, pulled forward over the advancing head, pressed against (supported as it were), incised, lubricated, etc. These, and many more, will continue to be employed in the search for a method that will prevent laceration. While much may be done to keep it unimpaired, laceration will sometimes inevitably occur owing to a faulty pelvis, to thick and unyielding tissues, or other unavoidable causes.

The method I have found the most beneficial and the one I generally employ, is to make the advancing head accomplish the

dilatation by causing its frequent recession and slow progress. In obtaining this end, I frequently find the forceps of great use by giving me complete control of the head making it advance or recede at pleasure. The cord should not be ligated until its pulsation ceases, unless demanded by some unfavorable condition of mother or infant.

Uterine contractions after birth of child should be secured and maintained by gentle compression of uterus through the abdominal wall.

The third stage calls for the most careful management. Hemorrhage is to be prevented, and sepsis guarded against by avoiding the introduction of the hand into the parturient channel, and by having this cavity free of placenta, membranes, blood-clots, or anything that may undergo decomposition and form a soil suitable for the growth of pathogenic germs and the development of their poisonous products.

Too great hurry should not be used in the delivery of the placenta. After the birth of the child keep the hand over the fundus of the uterus that its condition may be known and gentle compression made if necessary to cause contraction. This careful watching is all that is necessary till separation is complete when compression of the uterus and gentle, cautious traction on the cord, if you like, will speedily cause its expulsion.

The introduction of the hand into the uterine cavity for the removal of the placenta is admissible only when abnormal adhesions exist.

After its expulsion, and never before unless in rare and exceptional cases of uterine inertia where post-partum hemorrhage is to be expected, give ergot to cause firm uterine contraction which should be maintained by its administration for several days. The binder, as usually applied, is worse than useless; when properly fitted, it secures comfort which is about all the good it ever accomplishes.

Chloroform has been a blessing to man-

kind in many ways, and especially to the lying-in woman. I have used it for years, and with no bad effect. I know no condition in which its use is contra-indicated except in fatty degeneration of the heart. Its administration calls for discretion and judgment in these as in all other cases. I have known it occasionally to lessen pains to such an extent as to necessitate the use of forceps to complete the labor; on the other hand, I have seen it strengthen and increase the pains, and instrumental delivery be thus avoided.

Post-partum hemorrhage following the use of chloroform, I have never witnessed, but have always taken the precaution to keep the patient in the horizontal position till such danger is past.

In times past we have heard much about meddlesome midwifery, and the holy horror in which the forceps were held. There is no good without its evil. It is the misapplication of the principle, the wrong use of the means to the end that brings bad results. The forceps are capable of much harm if injudiciously and wrongly used, and of great good to the mother and child if wisely and prudently applied. The skilled hand, guided by the trained and well-balanced mind, renders them powerful for good, impotent of evil. Make use of them then, when the good of the patient demands. Do not let her linger in painful and ineffectual efforts to bring relief till exhaustion supervenes, till a hot and dry vagina threatens mischief, till life is put in jeopardy. Act wisely, judiciously, fearlessly. Let scientific midwifery be your motto. Laceration of the perineum should, as a rule, be primarily closed under antiseptic precautions, and thus lessen the dangers of infection.

Aseptic obstetrics is the great question of the day. The more the mind dwells upon it the greater its importance becomes. The good it has done, is but a forecast of what will follow. The fearful mortality of the lying-in hospitals of days gone by is a matter

of history. What it is to day is equally well known—a source of gratification to a generous profession, a blessing to the lying-in. What the mortality of private obstetric practice is we know not, only that it is far beyond what is claimed, and what it ought to be.

It is no uncommon thing to hear and read of those who, having a large clientele, have had no experience in septic troubles. Such has not been my experience, and I believe only a few can boast of such results.

A decade and more of years since I began the method of cleanliness in the management of these cases, and the results were most gratifying. As the system of asepsis became more and more complete, the convalescence of my patients was more speedy and satisfactory, and I now go to the bed-side of such cases expecting to have no trouble whatever of a septic origin. In only one of my recent cases has there been a rise of temperature, and that in the third day, reaching 100° F., and soon subsiding. This was due to the failure to close a slight perineal laceration. There being some irregularity of the heart and difficulty of breathing, it was deemed advisable not to administer chloroform for this purpose and the rent was left to nature, and thus the origin of the slight sepsis. Memory is treacherous, and if one has not a record of his work to refresh it and correct his judgment, there is lacking, even in his experience, many things calculated to convince.

The mortality in private practice will continue to be greater than necessary till the important truth is recognized and accepted by the mass of the profession that many, nay most, of the ills of the lying-in woman as puerperal fever, salpingitis, pelvic peritonitis and cellulitis, milk-fever, mastitis, milk-leg, night-sweats, etc., are due to infection from without. How important, then, to accept this great doctrine, and carry out the aseptic method in its fullest details and thus render an epidemic of puer-

peral fever impossible and the occurrence of any of these septic diseases of rare occurrence. Its field of usefulness is unbounded; the good that has, and is to come of it, is unlimited. Asepsis in obstetrics is no trivial matter. No ephemeral doctrine. It has come to stay, to grow and develop. When the good it has already done is remembered, the number of women that will be saved from an untimely grave—saved to those who need their sympathies, their watchful care and kind attentions, the profession will enter upon the discharge of its duties with renewed determination and with an enthusiasm that will, and ought to, carry these principles into every lying-in chamber throughout the land.

The mind is often slow to grasp new truths. It is difficult to leave trodden paths and pursue new ones to the goal we desire to reach. To break the ties that bind us to the old and established way of doing a certain thing is not always easy. Forty years ago Semmelweiss established prophylaxis in his obstetrical wards, and greatly reduced the mortality. The valuable and practical lessons taught by his experience were lost to the profession till Pasteur began his investigations, the results of which have revolutionized pathology.

Asepsis has given us a new surgery which astonishes the world by its boldness and wins the admiration of medical men by its results.

Since the cause of puerperal fever, infection from without, is definitely known, it is time that the profession have positive convictions as to the proper method of prevention.

The germs are conveyed to the genital tract by unclean hands or contaminated instruments, where they find in bruised, lacerated, or denuded tissues, soil suitable for rapid development and channels for ingress to the system. These wounds differ not from other wounds only that they absorb with almost absolute certainty the poisonous products of decomposition and

thus develop septicæmia. To have them heal without infection is the great desideratum. The very safety of asepsis in these cases makes its claims all the more exacting. It should be thorough and complete, no fault of omission or commission; clean medical attendant, clean nurse, clean bedding, a well ventilated room, pure air.

The following conclusions in regard to the germ theory have been formulated by an able writer and they must be accepted as true: "That the air and water contains organized microscopic beings. They live and multiply at the expense of organized matter. Their penetration into tissues produces disease. The skin, respiratory and digestive passages furnish the channels into the body. A healthy tissue has never produced a microbe. Any abrasion against which these microbes come make it possible for them to enter the system. Unless germs are brought from without there can be no infection." These are the principles of asepsis, the foundation on which its victory rests.

To carry out the principles of aseptic midwifery is not a herculean task. The medical attendant having gone to the bedside properly prepared for the full and faithful discharge of his duties, the patient having been under his care and put in good condition for her confinement by proper attention to her general wants and needs, sees that she has clean linen, clean bed, a bright, cheerful and well-ventilated room and also demands that the nurse be clean, that she be able to comprehend the principles of cleanliness to the full extent so that she can keep herself in an aseptic condition and thus not render futile his every effort to avoid infection. Syringe the vagina with a bichloride solution 1:1000 before making an examination. Remember that the obstetrical bag may be swarming with bacteria ready to infect the patient, and therefore never use an instrument until disinfected with boiling water and put in a solution of carbolic acid 1:20.

Put a towel wrung out of a bichloride solution 1.1000 under the nates, and one also over pubic region.

Always syringe vagina with an antiseptic solution after completion of the third stage, and the uterine cavity, provided the hand had been introduced into this organ during the labor.

The patient should now be bathed with water and soap and then sponged with an antiseptic; everything soiled should be removed from her person and bed; and a napkin wet with a bichloride solution 1.1000 applied to the parts. She should thus be kept clean throughout the lying-in.

It might be said that it will be very difficult to enforce these relations. That may be true to some extent, because the physician is not always fully alive to their importance. Again, the public has not been educated into the belief of their necessity, and poverty throws obstacles in the way that are at times difficult to overcome. But perseverance and "self-reliance, born of honest conviction," will generally become masters of the situation.

It will be necessary occasionally to "read the riot act" to the perverse and obstinate, and demand that orders be obeyed.

Let everything be done decently and in order; keep the patient and everything about her clean. Cleanliness is to be strictly enforced. Aseptic obstetrics has been epitomized in the following language: "The antiseptic hand; the clean patient; few, if any, examinations; antiseptic precautions to the lower part of the parturient canal."

Such is the doctrine of the new gospel; accept its truths; carry its principles with you to the bed-side; be guided by its teachings, and your reward will be great.

DISCUSSION.

Dr. Steele Bailey said: The admirable paper read by Dr. Price hardly admits of a criticism, and I will only speak of a point which he incidentally alluded to but did not

bring out as fully as the subject demands. I refer to the use of chloral as a hypnotic and anodyne in the management of natural labor. While the mode of action of chloral may be involved in doubt, yet there can be none as to its value as a remedial agent, especially the influence exerted by it on the pains of the first stage of parturition, a position in which it stands unrivalled. It may be administered under favorable circumstances during or at the close of the second stage, with this advantage over chloroform, that it requires no interference with the patient, but, pre-eminently, it is in the first stage of labor that we desire to keep chloral. The sleep produced is more like natural sleep, the patient may be aroused at any time and be in full command of her functions, she may take food, pass urine, expectorate, cough with full strength, and unlike its adjunct, opium, an agent used indiscriminately by many practitioners in this stage of labor, and often detrimentally, because it interferes both with the secretions and the progress of labor. Chloral not only does not suspend, but rather promotes uterine contractions, by suspending all reflex actions which counteract the excitability of the centres of organic motion. We are told by good authority, and my experience corroborates it, that labors under chloral will probably be found of shorter duration than when natural, for unconscious contractions appear to have more potent effects than those which are accompanied by sensations of pain. Again, to administer chloroform too early, and every practitioner, now-a-days is armed, cap-a-pie, with this "lullaby," we find, if not a suspension, a retardation of pains, a diminution of their force, an alteration of their character, and employed continuously, there is engendered a predisposition to that bane of the lying-in room—post-partum hemorrhage.

It is a glorious thing, but sometimes does more than we wish, and Dr. Price has been fortunate in seeing none of its ill-effects. I wish that chloral was more generally em-

ployed by the profession. Certainly it has fallen into desuetude, and is not appreciated according to its merits.

If we but bear in mind that it does not interfere with the exhibition of chloroform, that when the pains are strong and forcing, the time has come when this agent may be inhaled, but only in a smaller quantity, and restricted to a lesser period of the duration of labor, that it is entirely safe when given, *secundem artem*, and is followed by no unpleasant results, I say, if we only remember these things, there can and will be no diversities regarding its excellencies.

DISCUSSION.

Dr. L. S. McMurry, of Danville, spoke as follows: Mr. President and Gentlemen:

It was not my intention to prolong this discussion by any remarks of mine, but I desire to speak upon that part of the paper which has provoked the criticism of preceding speakers and in which I think the essayist has been misunderstood. At the very outset, I desire to align myself distinctly with the position taken in the paper, advocating those principles which have made a new era in surgery, and which applied to obstetric practice have been just as effective and potent in reducing puerperal mortality. I allude, of course, to the application of Listerian principles and aseptic methods to the lying-in woman. This is a question of great importance. Indeed, Mr. President, this is the great question of the age, and upon one's convictions and practice in this respect depend vital issues. A woman who has just suffered in labor is a wounded woman. She is the subject of traumatism, with exposed, lacerated and contused wounds, varying in degree but always present, of the genital tract. Hence the treatment of the puerperal woman involves those principles which govern wound-treatment. Moreover, the modifications which the system has undergone during pregnancy alter the blood-state so as to make her peculiarly susceptible to infection. When we look

upon our patient in this light, and bear in mind that so-called puerperal fever, which is really septicemia, is the great peril of the puerperal state, then we appreciate the close relation which the antiseptic system bears to midwifery practice.

And now I wish to state what I understand the principles of Lister to be, and the scientific facts upon which the entire system of wound-treatment bearing his name is based. It is very common with those who disregard or reject antiseptic methods to turn the discussion toward the use of carbolic acid or the spray or the bichloride of mercury or some other one or more details of the antiseptic method, as if this or that detail was the very essence and totality of a system of prevention and treatment which has revolutionized surgery within the past fifteen years. It is just here that I think Dr. Price's position has been misunderstood. It is in like manner that Lister's teachings are misrepresented. The truth is that Lister's method consists in the application of a great principle, the details of which may vary indefinitely according to the fancy of various surgeons.

It has been demonstrated that septic changes obtain in organic matter under certain fixed conditions. These changes consist in fermentation, suppuration and systemic infection when occurring in recent wounds of the animal body. These conditions, without which these destructive changes will not, and cannot occur, consist of *moisture*, a certain degree of *warmth*, and the presence of certain *micro-organisms*.

These three conditions are absolutely necessary for the fermentation or putrefaction of animal substances. When the integument or mucous surface is broken by a wound, with the accompanying destruction of tissue, these minute organisms establish themselves within the tissues, and as they multiply the phenomena of inflammation, suppuration and septic fever develope. It is upon this biological law, a law established beyond all question, that the entire system

of wound-treatment, known as the antiseptic method of Lister, is based. The aims of this system are two-fold. The first object sought is to prevent the admission of the active agents of fermentation, the micro-organism, by a thorough system of surgical cleanliness; and the second aim is to prevent the activity and multiplication of these minute organisms if they be admitted to the injured tissues. The first of these two objects when attained, is known as *asepsis*, and the second is *antiseptis*; the former being altogether prophylactic, and the latter directed to altering one of the three conditions necessary for fermentative change. It is only begging the question to say that perfect cleanliness is the only condition desired to secure repair of wounded structures without suppuration and septic infection. Perfect cleanliness in this sense means freedom from micro-organisms and their rapid multiplication; a degree of perfect cleanliness, only surely to be *attained* and *maintained* by the faithful and painstaking observance of the principles of the antiseptic system.

A preceding speaker has stated that soap and water are quite sufficient to attain the desired condition. It is well known that the very soap itself may be a prolific culture-bed, and convey septic agencies to the wound.

The application of these principles to the puerperal woman has banished puerperal fever from maternity hospitals as septicemia has been eliminated from surgical practice. To attain this result it is necessary to have an aseptic environment. The patient must be free from sepsis, in an aseptic bed; the accoucher must be aseptic in his clothing as well as in his hands; his instruments should be rendered aseptic by observance of the antiseptic technique, and last, but not least, the nurse should be instructed to observe aseptic rules.

The eleventh annual meeting of the Kentucky Pharmaceutical Association will meet in Henderson, May 9, 1888.

PATHOLOGY AND HYGIENE.

SUPPURATION AND SEPTIC DISEASES.

BY

W. WATSON CHEYNE,

F. R. C. S.,

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A Lecture Delivered at the Royal College of Surgeons, London.

I mentioned in the last lecture that, as the result of differences in the seat of inoculation, and the anatomical arrangement of the part, there may be differences in the character of the disease produced. Virchow has long ago pointed out that the cause of a disease does not by any means determine

the product of the disease, for that depends chiefly on the internal predisposition; thus the same agent acting on the cellular tissue may cause thickening of it, and, acting on the periosteum, may lead to ossification. This is probably in part the explanation of the different types of disease produced by these pyogenic organisms according as they act in the skin or in the connective tissue. I have previously mentioned the result of Bockhardt's investigations on impetigo and boil, from which it is evident that the character of the inflammation depends greatly on the point of entrance, and the seat of development of the organisms, and Garré has also come to the same conclusion.

It seems that in the case of multiple abscesses of the skin in infants, the cocci spread into the hair follicles, and sebaceous and sweat glands, and growing there, set up inflammation and abscess, the process being similar to that which occurs in the formation of boils in adults, but being clinically distinguished from that by the tendency to form true abscesses, and by the absence of necrosis. Escherich believes that these differences in the degree of tension of the skin in adults and infants, and more especially in atrophic infants, in which these abscesses are especially apt to occur. It is possible, however, that, as Baumgarten points out, the greater softness and irritability of the tissues

of the child, as compared with those of the adult, play an important part.

The different course which is run by acute osteo-myelitis, when it occurs spontaneously, and when it follows operations on bones, is also probably due, in the main, to the seat of inoculation. In the latter case we never see the scattered patches of necrosis which so frequently occur in the former, and this may be explained by the fact, that in the latter, the infective agents spread continuously in the tissue from the point of inoculation, whereas, in the former, they are carried by the blood, and may be deposited at various parts, thus giving rise to various foci of disease.

Another example of the influence of the seat of inoculation is the difference in the behavior of the peritoneum as compared with the cellular tissue in regard to the pyogenic organisms. In former times the peritoneal cavity was looked on as one especially liable to inflame, and it was thought to be one of the chief triumphs of antiseptic surgery that operations could be performed on the peritoneum without bad result. The experience of a number of surgeons has, however, now shown that it is not absolutely necessary for success in operations on the peritoneum that all bacteria should be excluded from the cavity; in fact, this seems to be much less necessary than where operations were performed on other serious cavities, such as joints, or on the subcutaneous or muscular tissues.

The explanation of this surprising result is found in the nature of the lining walls of the cavity, and in the conditions under which pyogenic organisms find themselves there. The peritoneum has marvellous powers of absorbing fluids, and thus effusions into it are very rapidly removed, and in this way micro-organisms are deprived of the necessary nutrient material, while they are also, in all probability, absorbed along with the fluid and destroyed in the blood, or excreted. Wegner, who performed a number of experiments on this subject some years ago,

has shown, in a very striking manner, the great absorptive power of the peritoneum. I may mention one of his experiments. Two hundred cubic centimètres of warm serum were injected into the peritoneal cavity of a rabbit. An hour later the animal was bled to death, and the amount of fluid then present in the peritoneal cavity was only sixty-six cubic centimètres, no less than 134 centimètres having been absorbed in one hour. Apparently the rapidity of absorption of fluid depends, in the first place, to a great extent, on the tension under which the fluid is, fluid under low tension, as when the walls of the abdomen are lax or when the fluid itself is small in amount, being absorbed comparatively slowly; and, in the second place, on the nature of the fluid, fluid of lower specific gravity than blood serum, leading, in the first instance, to transudation from the blood. If we contrast the condition of a wound in the cellular or muscular tissues in respect of its absorptive power, we find that we have not here an actively absorbing surface; in fact, the whole surface is for a few hours in the early stage of inflammation as the result of the injury done by the knife, and is not only not an absorbing surface, but is not even a healthy surface.

Wegner has also shown that a great variety of fluids free from bacteria, such as water, bile, urine, blood, etc., may be injected into the peritoneal cavity of rabbits without causing any bad results, and even large quantities of unfiltered air may be similarly introduced without setting up peritonitis, the air being soon absorbed, though by no means so rapidly as fluids. If putrescible fluids are injected into the peritoneal cavity at the same time that air is introduced, they rapidly undergo decomposition; but this is only the case if the quantity of the fluid is too great to be quickly absorbed. Thus fifteen cubic centimètres of putrescible fluid injected into the peritoneal cavity of a rabbit will usually be absorbed before decomposition has had time to occur; but as much as fifty cubic

centimètres are employed, then only a par- is taken up during the first hour, and the rest furnishes a substratum for the growth of the organisms present in the injected air, and these organisms develop with extraordinary rapidity, and may cause the death of the animal from septic intoxication.

In none of Wegner's experiments with the injection of putrefying or putrescible fluids and air did peritonitis occur, and Grawitz, who has since investigated the matter, has directed special conditions under which peritonitis is produced. Apparently the explanation why Wegner did not obtain peritonitis, but only septic intoxication, is that pyogenic organisms are not frequently present in the air, and were, therefore, not injected along with it, and also that they only act under certain special conditions.

As the result of Grawitz's experiments, the following seem to be the fact of the case: in the first place, saprophytic bacteria are absorbed or destroyed by the peritoneum in relatively enormous numbers; where, however, the peritoneum is abnormal, or where the quantity of fluid is too great to be rapidly absorbed, and where the bacteria are able to set up putrefaction, the symptoms of septic intoxication, as described by Wegner, result, but these symptoms are unaccompanied by suppurative peritonitis. In the second place, pyogenic organisms, when injected in small numbers into the normal peritoneal cavity, and when suspended in such an amount of indifferent fluid as can be readily absorbed, cause no peritonitis. On the other hand, peritonitis occurs as the result of injection of these organisms if the peritoneum is abnormal; or if, with normal peritoneum, large numbers of pyogenic cocci are introduced, or if the cocci are suspended in too large an amount of fluid to be quickly absorbed. The necessary abnormal conditions of the peritoneum may be set up if, at the same time that the pyogenic organisms are introduced, substances act which weaken or kill the tissue of the peritoneum, and thus provide a suitable soil for the penetration of

the cocci; and above all, if there is a wound of the peritoneal wall in which the infective organisms can develop.

The factors, then, which are required to produce suppurative peritonitis are the presence of the pyogenic cocci—usually the streptococcus pyogenes—along with too large an amount of fluid to be rapidly absorbed, or along with disease of the peritoneum, or themselves in too large numbers, or acting in too great concentration. In other words, in order to develop peritonitis, the cocci must either be introduced in such numbers, along with their products, that a part of the peritoneum is at once injured, and thus ceases to exercise its normal functions, or they must be introduced into an unhealthy peritoneum, or they must be able to grow in the peritoneal cavity, either because fluid is present in too large a quantity to be quickly absorbed, or because the absorptive power of the peritoneum has been diminished, or because some material, such as a piece of blood-clot or a piece of injured or dead tissue, is present, in which they can develop.

It is evident, therefore, that when authors draw conclusions to the effect that aseptic treatment is unnecessary in surgical practice, because they obtain good results in operations on the peritoneum when they take care to introduce a few of these organisms as possible (in many cases probably none at all are allowed to enter), to introduce them in as dilute a state as possible, to remove all the fluids and other materials, such as blood-clot, in which they can grow, and to avoid injury to the peritoneum as far as they can, they make an assumption which is not at all in accord with other clinical and experimental observations. The points which I have mentioned amply explain the results, and bring them into unison with those of experiments and of clinical experience with regard to other tissues of the body.

Indefinite Conditions on the part of the Body. Further, we have conditions of a more indefinite character on the part of the body.

Thus age, as we have seen, is an important factor in the production of acute osteomyelitis. This is a disease of youth, and occurs most frequently between the ages of seven and twenty, and I have mentioned the different situations which are attacked in infants and in youths. Other diseases also vary in frequency at different ages; thus spontaneous erysipelas is apparently most frequent in persons between thirty-five and forty-five years of age, and next most frequent between forty-five and fifty-five. Diphtheria most commonly occurs below five years of age, and steadily decreases in frequency as the age increases.

As regards sex also we find in some of these diseases a marked difference in the frequency of occurrence in the two sexes; thus spontaneous erysipelas is apparently much more frequent in women than in men. Eschbaum found, in 181 cases, that 122 of those attacked were females and only fifty-nine were males. Osteomyelitis, as we have seen, is most common in males.

It is possible that the state of the digestive organs may have an important influence on the occurrence of these suppurative diseases, as shown by Kocher's experiments and views on the production of acute osteomyelitis. Kocher came to the conclusion, in the case of dogs, that after injury to bone this disease could be induced by feeding the animals with large quantities of putrid materials, and he thinks that in many cases of acute osteomyelitis the starting-point is a disturbance of the digestive organs, permitting excessive multiplication of bacteria in the intestinal canal and their entrance into the blood. In fact, Kocher holds that an individual in whose intestinal canal fermentative changes of an intestine character are going on is practically in the incubation stage of acute inflammation, which will develop if an injury or some other local depressing cause comes into play. In this way Kocher explains the occurrence of acute osteomyelitis after typhoid fever, and he relates a case as bearing on this view, in which a girl, shortly

after recovery from an attack of epidemic cholera, knelt for a long time in church, and was immediately attacked by acute osteomyelitis of the tibia. Kraske, however, who has paid great attention to this matter in *post-mortem* examinations of cases of acute osteomyelitis, and has carefully examined the wall of the intestine and the mesenteric glands, both microscopically and by cultivation, states that he has never been able to obtain any evidence that the infective material had entered the body by those channels. Whether Kocher's view is correct or not, the possibility that, during the progress of some wound or inflammatory disease, if the digestive organs are very much out of order, organisms may multiply to a great extent in the intestinal canal, and may enter the blood and thus reach the seat of the local disease or injury, is worth bearing in mind.

It is possible, also, that the nature of the diet may affect the occurrence of these diseases. It has been observed, for instance, in the case of symptomatic anthrax, that calves are more or less immune against this disease so long as they are fed on milk, but that, after this period had passed, and when their diet becomes exclusively vegetable, they lose their immunity. Arloing, Cornevin, and Thomas explain this by supposing that the milk diet induces a particular constitution of the body which is unfavorable to the development of this disease, but, on the other hand, this may be a mere coincidence, and the cause may be some peculiarity in the youthful connective tissue.

The state of the blood is also of importance; for example, the frequency of carbuncle and furuncle and of ulcerative and suppurative affections and their stubborn course in cases of diabetes is well known. It is very probable that part of the explanation of this fact is the presence of the sugar or its chemical progenitors in the juices of the part, leading to the formation of a better pabulum for the development of the micro-organisms, though no

doubt much depends on what we must more vaguely term the general depression of vitality of the tissues caused by the disease.

Dilution of the blood also apparently interferes to some extent, though only slightly, with the rapidity with which bacteria are killed in it. Thus Von Fodor found, that if, at the same time that non-pathogenic bacteria were injected, a quantity of water was introduced into the blood, the bacteria did not disappear so quickly as in undiluted blood. Pettenkoffer, in fact, has come to the conclusion that everything which increases the amount of water in the body increases the predisposition of the individual to infective diseases. There is no doubt, also, that other chronic affections, such as albuminuria, predispose to septic diseases.

Acute diseases, such as acute fevers, also predispose to these affections, as to the case of the occurrence of acute osteo-myelitis after acute fevers, of pneumonia after typhoid fever, etc., probably in part because, as in the case of scarlet fever, the pyogenic cocci are able to enter and live in the blood.

Tension apparently has a considerable influence in causing inflammation and in predisposing to suppuration. The spread of an abscess after it has once completely formed is, no doubt, largely due to the tension of its contents; for the microscopical examination of the wall shows that the increase is not due to the spread of the micro-organisms, and, further, if an abscess is opened aseptically and well drained, the secretion of pus ceases. The same is seen in the case of wounds, where, if micro-organisms are present, the occurrence of tension from accumulation of discharge is apt to be followed by suppuration, and where, on relief of the tension, the suppuration ceases.

In some cases, however, the predisposition is apparently lessened as the result of the action of various indeterminate causes, and apparently, also, this lessening of the predisposition may be due to a previous attack of the same disease, though, as regards the organisms under consideration, erysip-

las seems to be the only case where a temporary and partial protection is attained in this way.

We now come to the consideration of the conditions which more especially effect the bacteria, and which are not, perhaps, of less importance than those to which we have been alluding; these are chiefly the species, the dose and concentration of the organisms, the virulence, and the concurrent growth with our bacteria.

Influence of Species.—As regards the species, while, as we have said before, the nature of a disease does not by any means altogether depend on the cause, it does so to a large extent; and all writers are now agreed as to the differences in the pathogenic action of the pyogenic streptococci and staphylococci. These differences have been previously referred to, and it has been seen that the streptococci are generally associated with erysipeloid processes, while the staphylococci tend to cause more circumscribed suppurations. The streptococcus is by far the most dangerous organism, and apparently has the property of creeping in the living tissue, spreading in it for a time without being noticed, and then setting up violent reaction. Frankel has found streptococcus pyogenes in a great variety of puerperal diseases, especially in the so-called lymphangitic forms. It gains entrance to the cellular tissue of the pelvis from ulcers in the vagina, spreads in the pelvic cellular tissue, reaches the ligamenta lata and the peritoneum, and, spreading along the lymphatic channels, ultimately attacks the diaphragm and pleura; finally it reaches the blood, and causes septicæmia, pyæmia, suppuration in joints, etc.

As regards the other pyogenic cocci, I have already referred to the difference in their effects on animals, some of them not being pathogenic in rabbits, and some, such as micrococcus pyogenes tenuis, being especially associated in man with mild inflammations.

Dose and Concentration of the Organisms.

Perhaps the most important factor with regard to micro-organisms is the dose or numbers, and the concentration in which they enter the body. Ogston has already laid stress on the dose as explaining the different diseases which result from the introduction of these organisms, and he looks on the difference between acute abscess and pyæmia as in the man a quantitative one. This, however, is only partially correct, as must now be evident.

Various authors have, from time to time, mentioned with regard to bacteria, that some act best, or only, when present in large numbers, but the matter has not till recently been thoroughly worked out. I was led to investigate this matter in connection with some interesting experiments made by Sir Joseph Lister, which appeared to show that one or a few putrefactive bacteria could not set up putrefaction in blood taken with various antiseptic precautions, while that result was obtained if a mass of putrefying material was added to it. At first sight I did not think that it could matter much, except as regards the rapidity of the result, whether to begin with, one or a million bacteria were employed, but nevertheless I determined to put the matter to the proof, and to my surprise I found that difference in dose was a most important factor in the production and the type of many diseases. The experiments were made in such a manner that I was able to ascertain exactly the number of bacteria introduced, the material being in the first place diluted to such an extent that, on rough estimation with the microscope, I obtained a general idea as to the number of bacteria present in given quantity of the fluid; a certain amount of this fluid was then injected into the animals, and at the same time a measured quantity was thoroughly mixed with liquefied nutrient jelly, which was then poured out on glass plates and allowed to solidify. By counting the number of colonies of bacteria which developed on these plates, each colony probably originating from a single bacterium, I ascertained

exactly how many organisms were present in the amount of fluid injected.

Without going into further details, the following are the most important results that I obtained. In the case of Hauser's proteus vulgaris, I found that a definite and large dose of the cultivation in nutrient jelly was necessary to kill rabbits, and in comparing these doses, I took care that they were always injected into the same tissue, for example, the muscles, in accordance with the facts previously mentioned with regard to the importance of the seat of inoculation. I found that about $\frac{1}{10}$ cubic centimetre of an undiluted cultivation was a rapidly fatal dose when injected into the muscles, and I ascertained that this quantity contained about 225,000,000 of bacteria; $\frac{1}{40}$ cubic centimetres containing therefore about 56,000,000 bacteria, always caused an extensive abscess, of which the animals usually died in six to eight weeks. Doses of less than $\frac{1}{500}$ cubic centimetre produce no effect; in fact doses of less than $\frac{1}{120}$ cubic centimetre, or, in other words, fewer than about 18,000,000 bacteria, seldom caused any result. From $\frac{1}{120}$ to $\frac{1}{40}$ cubic centimetre caused abscesses; above $\frac{1}{20}$ cubic centimetre caused death in twenty-four to thirty-six hours. Further, the size of the abscess apparently depended on the initial dose. If $\frac{1}{500}$ cubic centimetre caused any effect at all, it was only a very slight trace of opacity which soon disappeared, while $\frac{1}{40}$ cubic centimetre caused a large and spreading abscess, ultimately resulting in the death of the animal, and intermediate doses produced abscesses intermediate in size. Further, the concentration of the bacteric material is also of great importance, as shown by the fact that the dose must act at the same place, at the same time. It apparently will not do to split up the dose and inject various portions of it into different parts of the same animal at successive periods of time, or even at the same time. In both cases the effect of the smaller dose is produced.

I have tested this matter in the case of a number of other infective diseases, and have found that the result depended mainly on what we may, for want of better knowledge, term the predisposition of the animal to the disease. Thus in the case of mouse septicæmia, mice, which are extremely susceptible to this disease, die as the result of the injection of a single bacillus, while the only result of the injection of 4 cubic centimetres of a jelly cultivation, containing myriads of bacilli, into the base of the ear of rabbits, is to cause illness for a few days, along with slight swelling and redness of the part. In like manner, in the case of chicken cholera, rabbits die apparently as the result of the introduction of a single microbe, but a considerable number—some where between 150,000 and 300,000—are required to cause the death of a guinea-pig; and here again we meet with the fact that where the animal is less predisposed to the disease, we have different effects, according to differences in the dose. As I have said, 300,000 bacilli are apparently able to kill guinea-pigs; as the result of a smaller dose, down to 10,000 bacilli suppuration follows their injection; below 10,000 bacilli apparently no effect is produced. In the case of *staphylococcus pyogenes aureus*, I have found that it was necessary to inject something like 1,000,000,000 cocci into the muscles of rabbits, in order to cause a rapidly fatal result, while 250,000,000 produced a small circumscribed abscess. The same result was obtained with *staphylococcus pyogenes albus*, only apparently fewer cocci were required. In the case of the tetanus bacillus, death did not occur in rabbits when fewer than 1,000 bacilli were introduced.

I think that in these experiments a good deal depends on the simultaneous action of the products of the bacteria, and I would suggest the following explanation of the facts. When the animals are not very susceptible to the action of a bacterium, the cells and tissues soon gain the victory in the struggle for existence; but where a large

number of bacteria are introduced at one place they grow for a time before they are attacked by the cells, and, growing there, each produces a small quantity of poisonous material. The products thus formed must interfere with the action of the cells, and thus enable the bacteria to gain a foothold. The more bacteria are introduced at one time the more of these products will be formed, the more extensive will be the foothold, and the more marked will be the result. Where only one or a few bacteria are introduced into a slightly susceptible animal, they are overpowered by the cells and quickly destroyed. When the number of bacteria is greater, these poisonous products destroy the tissues in their vicinity, and enable the bacteria to spread over a large area before the cells collecting around them are able to form an efficient barrier against their progress; and where the dose is very large no efficient barrier can be set up in time, and the death of the animal is the result. Thus the extent to which the organisms spread, and the violence of their action in animals not very susceptible to the disease, depend, first, on the number of bacteria and the quantity of products introduced in the first instance; and secondly, on the vitality of the animal and the rapidity with which a granulation wall is formed.

The facts made out in this research enabled me to lay down the following laws. In the first place, the pathogenic dose of a virus varies inversely with the predisposition of the animal to the disease in question; the greater the predisposition to the disease, the less is the quantity required, and conversely the less the predisposition the greater is the number of bacteria that must be introduced to produce the same effect. Of course the term "predisposition" is an absolutely indefinite one, but I have already discussed a number of conditions which go together to make up predisposition, and it is a convenient term, as expressing a complex set of conditions which undoubtedly exist, but about which we do not know very much.—

A second law is that, in animals which are not very susceptible to a disease, the severity of the affection varies directly, within certain limits, with the amount of virus introduced. In all the affections of this class which I investigated, I found three stages, according to the dose injected: first, a stage where, with a small dose, no apparent effect was produced; secondly, an intermediate stage where a local affection resulted, the extent of the local affection depending to a great degree on the dose of the virus; and thirdly, a stage where, after a very large dose, death occurred. Of course, as predisposition varies in the same species of animal—for example, in man—we cannot measure out the dose nor calculate the effects of a given dose in each instance.

The importance of these facts as regards dose is very great in connection with our subject, for man is not very susceptible to the action of pyogenic organisms, and the results produced by them vary to a great degree in accordance with the second law. In the case of wounds, it is important to know that apparently in man a single pyogenic coccus might possibly do no harm, unless indeed it met with conditions, such as retention of fluid, under which it could grow. At the same time, I doubt if a single coccus ever enters a wound; as a rule they occur in masses containing many individuals, and then, of course, we have the effects of a large instead of a small dose. And there is no doubt that man is very much more susceptible to the action of these organisms than rabbits, and, therefore, a very much smaller dose will probably produce the same effect. The facts as regards dose probably explain to some extent the fairly good results obtained where, by imperfect attempts at antiseptic work, the introduction of gross particles of dirt, that is to say, of large numbers of bacteria, is avoided, and where, consequently, the effect of the injection of a small instead of a large dose of the virus is obtained.

The importance of dose has, as I have

said before, been mentioned by various observers. Thus Ribbert, in his research on experimental myo- and endocarditis, already referred to, found that in order to obtain the desired result it was necessary to inject a considerable quantity of the cultivations. Thus a Pravaz syringe of the emulsion killed the animals in from twenty to twenty-four hours; if the dose was somewhat less, the animals might live even for five days; if only one-sixth of a syringe of the emulsion was injected, the animals lived still longer, and endocarditis was not produced.—In the case of symptomatic anthrax, the relation of dose to the producing no effect at all, or only local reaction, which, however, may suffice to render the animal immune, while a larger dose causes the death of the animal.

Virulence.—It is also important to remember that organisms may vary in virulence at different times, and that the greater the virulence of the organisms the less are other conditions necessary to enable them to gain a foothold. A virus, or, at any rate, most viruses, is, as regards virulence, not a fixed quantity; it is, in fact, in a constant state of variation under the influence of the external conditions under which it finds itself. I need not refer to the well-known facts with regard to variations in virulence in the case of anthrax, chicken cholera, swine erysipelas, etc., as the result of the mode of cultivation employed outside the body; but I may mention some of the points which seem to bear especially on the pyogenic organisms. In many cases it is found that as the cultivations carried on outside the body become older, so the virulence of the organisms is apt to decrease. This is very well seen in the case of Fränkel's pneumonia coccus, which loses its virulence within two or three days, when grown in the same medium outside the body, and which, if its virulence is to be maintained, must be reinoculated frequently, and passed from time to time through the animal body. It can be readily seen, also, that staphylococcus pyogenes aureus grows most luxuriantly in the early cultivations

BOOKS AND PERIODICALS.

THEINE IN
THE TREATMENT
OF NEURALGIA.

Being a Physiological Contribution to the Therapeutics of pain.

BY

THOMAS J. MAYS,

M. D.

Professor of Diseases of the Chest in the Philadelphia Polyclinic; Member of the Philadelphia College of Physicians, etc.,

Philadelphia: P. Blakiston, Son & Co., 1012 Walnut Street, 1888. Price 50 cents

This is a neatly bound little volume of 84 pages, written in the usually charming and classical style of the author, who has won much favor with both the lay and professional readers, on account of his contributions to the study of pulmonary tuberculosis.

This essay on Theine was originally published in the *Poly-*

clinic as a serial, from Sept. 1887 to Feb. 1888 inclusive. The general demand for it led to its publication in permanent form.

The analytical style of treating the subject gives to it great value, whilst the experimental basis of the essay makes it desirable as a work of reference.

ESSENTIALS OF
CHEMISTRY
AND URINALYSIS.

BY

SAM E. WOODY,

A. M., M. D.

Professor of Chemistry and Public Hygiene, and Clinical Lecturer on Diseases of Children, in the Kentucky School of Medicine. Louisville.

Second Edition, revised and enlarged, with eighty-five illustrations. Louisville: John P. Morton & Co., 1888. Cloth. Duodecimo. 140 pages.

The author's object is to present the essential facts of a course of lectures on Medical Chemistry and Urinalysis, so that the student need not wade through the more exhaustive text books.

None of the facts presented are claimed as-new or original. The plan of presenting, however, is the result of ten years experience in teaching. To make the

work useful as a guide to the student, the author has labored earnestly. It bears the marks of a pains-taking series of experiment-

al observations covering all the fundamental principles of the subjects treated; and, there can be little doubt that students will find it a valuable companion, both at home and in the class room.

THE MODERN
TREATMENT OF
PLEURISY AND
PNEUMONIA.

BY

G. M. GARLAND,

M. D.

Instructor in Clinical Medicine, Harvard Medical School.

Physicians Leisure Library Number 7.

George S. Davis. Detroit: Price, in paper 25 cents.

This little brochure of 103 pages forms one of a series of monthly publications, which have become very popular. They are sold to subscribers at \$2.50 per annum.

This one is especially valuable, as it treats in a critical and scientific as well as practical manner of the nature, ætiology, and therapeusis of

diseases, which are typical representatives of localized pathogenesis, often unsuspected, and more often misunderstood by the casual methods of examination, in slightly perturbing acute complaints.

Oppressed respiratory function, with quickened pulse, dry skin, and pain in the chest is often accounted for by the meaningless term, cold; and, the patient put off with an aperient to be followed by quinine and Dover's powder. The fascination of this easy and slipshod method, is hard to overcome. Recent studies of microphytic diseases have greatly improved upon the old traditional and empirical methods of treatment. In no other field have the brilliant achievements of experimental research been more marked than in the study of intra-thoracic diseases. The contribution of Instructor Garland is one of great value, and must supplant the old text books.

THE LANCET-CLINIC will issue a daily edition during the meeting of the American Medical Association. A copy will be sent to each physician in attendance.

CORRESPONDENCE AND SOCIETIES.

PHILADELPHIA

COUNTY MEDICAL SOCIETY.

Stated Meeting April 11,
1888.
Reported for PROGRESS.

The meeting was called to order by the President, J. Solis Cohen, M. D. In answer to a call of the regular order of business, for the evening,

Dr. J. M. Barton read a report of some cases of abdominal surgery, and exhibited the specimens.

He said Gentlemen: By invitation of your Board of Directors I submit some specimens, this evening, from cases of abdominal surgery and present the following notes for your consideration:

Abscess of Liver. Free incision and drainage; recovery.—George B., aged thirty eight years, was admitted to the medical wards of the Jefferson Medical College Hospital, July 29th under the care of my colleague Dr. Neff. The patient was suffering with an immense abscess of the liver, extending the area of the percussion dullness to below the umbilicus and to the left of it. At the request of Dr. Neff, I removed by aspiration more than a quart of "brick-dust" colored pus, with such relief that the patient was able to return to his home in the interior of the State. The abscess cavity rapidly refilled, and he returned to the hospital, when we decided to operate by the method of Dr. Ransohoff, of Cincinnati. Making an incision through the abdominal wall, five inches in length, at the outer edge of the right rectus muscle, permitting it to gap, fastening the edges of the wound by sutures to the liver, and when firm adhesions had taken place, opening the liver by the galvanic knife. When adhesions were found to have formed, and I attempted to divide the tissues of the liver with the galvanic knife it did not act well; at first, while white-hot, it would cut readily, but the resulting very free bleeding quickly short-circuited the current and the knife became instantly cold. After repeated trials it still

proved so unsatisfactory that an ordinary scalpel was substituted, with which the pus cavity was reached. An attempt to check the bleeding from the margins of the incision, by the cautery knife, was also unsuccessful, and it was only by filling the wound with a number of rubber catheters, which happened to be at hand, that the hemorrhage was controlled.

The abscess cavity was washed out daily with various antiseptics; it gradually closed, and the patient was discharged cured. When Dr. Neff saw him the following December, his weight was one hundred and fifty-six pounds, his pulse beat eighty to the minute, and he had no evidence of hepatic disease.

Epithelioma of the œsophagus; gastrostomy; death.—John T., aged forty-two years, a patient of Dr. Joseph Lopez, of Philadelphia, was admitted to the Jefferson Medical College Hospital, December 5, 1884. He had suffered with difficulty in swallowing for one year, which had gradually increased until, at the time of admission, he had taken no nourishment whatever into his stomach for a week and but little for the last two months. He was greatly emaciated. He could drink as much as three ounces of fluid, which would be immediately ejected with great force. A bougie could be passed readily to within four inches of the cardiac orifice of the stomach, when it was suddenly arrested.

I performed gastrostomy December 9th, assisted by Drs. S. W. Gross, Brinton, Pancoast, Hearn, and others. An incision two and a half inches long was made parallel to the margin of the ribs on the left side, and about one finger-breadth from them, beginning at the outer edge of the rectus muscle. As soon as the peritoneum was opened the stomach appeared and its identity was verified by those present; six sutures were used to bring the viscus in contact with the abdominal opening, two at each side and one at each end. Each suture was made by placing two needles upon a fine silk thread, one of them was carried between the muscular and mucous coats of the stomach for

about one-third of an inch and brought out, both needles were then carried through the abdominal walls about one-third of an inch apart. Traction upon these sutures brought the walls of the stomach in close contact with the parietal peritonium. None was tied until all the sutures were in place. A silver wire suture was introduced through the outer coats of the stomach about the centre of the portion exposed, to serve as a guide when the stomach should be opened some days later.

The patient suffered no pain or other inconvenience from the operation, and had no evidences of peritoneal inflammation, but notwithstanding that the nourishment by rectum was continued and well retained, he lost ground so rapidly and his exhaustion was so great that we opened the stomach on the second day instead of waiting for the fourth or fifth day as is customary. Immediately on opening the stomach a rubber drainage tube was introduced and by a funnel inserted into the tube several ounces of warm milk were at once given, and though this was repeated every few hours he continued to sink and died two days later, or four after the operation.

Large uterine fibroid. Exploratory incision; universal adhesions preventing removal of uterus or of ovaries; recovery.—Miss Mary A., aged thirty-six years, school teacher, was sent to me by Dr. James Graham in February, 1885. She had a large submucous fibroid causing the uterus to rise above the umbilicus. The increase in size was first noticed one year ago. She formerly had some irritability of the bladder which had now ceased. Her menstrual periods usually lasted about ten days. The ergot which Dr. Graham had prescribed for her was continued and operation not advised. The hemorrhage, however, gradually increased until by the latter part of April, when I again saw her, she had been obliged to abandon her occupation, and had been unable to leave her house for a month.

April 27, 1885, assisted by Drs. Da Costa,

Edward, and Percy Graham, and Dr. Koons, I made an exploratory incision in the median line, between six and seven inches in length. The bladder was found entirely above the symphysis, and in the line of the incision. By pushing it downward and increasing the incision upward, I was able to gain access to the pelvis.

The uterus was greatly and irregularly enlarged and everywhere adherent to the surrounding structures. The intestines were so firmly fastened together that we were unable to find or remove the ovaries. The abdomen was closed with silk in the usual manner. The patient made an uninterrupted recovery. Full antiseptic precautions had been taken.

There are some points of interest connected with the subsequent history of this case. Though previous to the operation she almost invariably bled for ten days at each menstrual epoch and at least twice between the menstrual flows, immediately after the operation the excessive bleeding ceased, and for nearly two years she regularly menstruated but three or four days; she did not lose more than one-fourth of the quantity each day that she had prior to the operation and there was no bleeding whatever between the menstrual periods.

Her menstrual periods have gradually and irregularly increased until now, nearly three years after the operation, I find in my last note made this year, "no bleeding between menstrual period, menstruation lasts from three to ten days, when the latter the bleeding is slight the most of the time."

Her pains have ceased since the operation, her general health has greatly improved, and she looks much younger. Ever since the operation she has been, and is now, following her occupation as a school-teacher. Nothing was done at the operation to account for this improvement, which is great enough to have been considered quite a success, if the ovaries had been removed.

The tumor is gradually increasing in size,

and is now beginning to interfere with respiration.

The next case is one of so much interest that I am anxious to have it on record, though the principal part of the operative treatment was not performed by myself. The laparotomy was performed by my colleague, when I was a member of the staff of the German Hospital, Dr. F. H. Gross, during his term of service: the herniotomy by myself during my term, though we were both present, and took active part in both operations. I am indebted to Dr. Gross for permission to report this case.

Strangulated hernia. Operation; loss of nine inches of intestine; subsequent laparotomy; several feet of bowel found obstructed by inflammatory deposits; bowel above the obstruction joined to bowel below the obstruction; recovery.—Frank F., aged eighteen years, was admitted to the German Hospital on the evening of March 3, 1884, with strangulated right inguinal hernia of eighteen hours' duration. On opening the sac of the hernia nine inches of the bowel were found to be in a sloughing condition. The ring was nicked, the healthy ends of the bowel made to protrude, and the gangrenous portion incised. We proposed, on the next day, to freshen the edges of the healthy bowel and bring them together. By the following morning the patient had developed an intense peritonitis with a temperature of 104° , and the operation was postponed. After a week of severe illness he recovered, the sloughing bowel having separated in the meantime.

Some weeks later, as he was slowly emaciating, and the discharges looked as though the artificial anus was high up the bowel, operative interference was decided upon. The wound was enlarged, directly upward, at first but slightly, but ultimately to the extent of several inches, for the purpose of joining the divided ends of the bowel.

In the neighborhood of the artificial anus from two to three feet of intestine were found, strongly matted together by inflammatory deposits, small projecting loops of

a few inches in length were found free with both ends terminating in the mass. The lower end of the bowel, from which the slough had separated, could not readily be distinguished from any of the other loops; and it soon appeared that it would be useless to join it to the bowel which formed the artificial anus, as it was completely obstructed at many points. As the colon was free, and a few inches of the ileum, at the suggestion of Dr. Weed, then one of the resident physicians, it was decided to join the bowel forming the artificial anus to the colon. For this purpose a small opening was made in the cæcum, and one blade of Dupuytren's enterotome introduced, and the other being carried into the bowel forming the artificial anus, and the two blades clamped together. A temporary ligature was placed around both intestines while the toilette of the peritoneum was made; they were then fastened in position, and the wound, about six inches in length, closed.

The patient did well after the operation, though it was found necessary to re-apply the enterotome twice before a satisfactory opening was obtained, three times in all. The fecal fistula rapidly contracted, and when I last saw him he was able to wear a pad over it for a week without removal; his bowels acted naturally, he was free from pain, gaining flesh, and was working as elevator boy at the hospital.

I heard afterward that another surgeon had attempted, though unsuccessfully, to close the fistula.

Ruptured ovarian cyst. Ovariectomy; death on the fourth day.—Mrs. D., aged fifty-four years, a patient of Dr. Hogue, of Houtsdale, Clearfield Co., Pa., had suffered for some years with a large ovarian tumor, and though she had been advised by many to have an operation performed, she refused until symptoms of suffocation appeared, when I was hurriedly summoned to operate.

The abdomen was enormously distended, but did not present the typical diagnostic points of an ovarian tumor.

Dr. Hogue, of Houtsdale, his brother, Dr. Hogue, of Utahville, and two of their office students were present and assisted at the operation. On incising the peritoneum, at once the contents of the ruptured cyst appeared in the wound. This material would not flow through a canula, and it was not until the incision had been increased to six inches that I was able to draw the glucose-like mass out; even then it would not run, but had to be lifted and drawn out by the hand. Of this substance there were in all about sixty pints. The abdomen was cleaned with great difficulty, the material was adherent to everything and had penetrated to all portions of the cavity. Both visceral and parietal peritoneum were thickened, roughened, and nodular. The cyst was ruptured in many places, and had probably been ruptured for a long time. It had but few adhesions and these to the omentum, its pedicle was long, and had the operation been performed before rupture it would have been quite a favorable case. The pedicle was tied with silk, dropped, and the abdomen closed. The patient scarcely suffered from shock, though the operation was quite prolonged. After the operation she did well for two days, some of the cyst contents passing through the drain, but she perished on the fourth day, probably with septic peritonitis.

Encysted pelvic abscess. Abdominal and visceral peritoneum stitched together, abscess emptied and drained; recovery.—Morris S., aged thirty-one years, was admitted to the Jefferson Medical College Hospital June 17, 1886. He had a tumor about the size of the adult fist, deep in the right iliac fossa, just to the right of the median line. It was regular in its outline, not very painful, though tender on deep pressure, and it was covered by the intestines.

He stated that he had noticed it for two years, and that it was nearly its present size when first discovered. He had lost flesh, but was still in quite fair health. No pulsation and no murmur could be detected.

His temperature, though normal in the morning, ran up to 102° each evening. It was now considered as probably an encysted purulent collection, although there were no evidences of any disease of the spine or kidneys.

With the assistance of my colleague, Dr. O. H. Allis, and the house staff, I made an incision four inches in length, beginning one inch above and one inch to the left of the interior superior spinous process, then carried it downward and inward parallel to Poupart's ligament; about the same incision as is used for the ligation of the iliac arteries. After the muscles were divided, the transversalis fascia was separated until we were close to the growth, when fluctuation was detected. Carrying our incision toward the mass it was found that the parietal layer of peritoneum and that covering the abscess, though in contact, were not adherent. A catgut suture and some silk ones were introduced, fastening the two layers of peritoneum together and surrounding the proposed point of incision. After verifying our diagnosis by the exploring needle, a free incision was made giving exit to about eight ounces of healthy, odorless pus. A finger introduced into the abscess cavity failed to discover the cause of the collection. A large drainage tube was introduced, by means of which the cavity was daily irrigated with antiseptic solutions, the discharge gradually ceased, and he was sent out cured July 26, 1886.

Double ovariectomy; multilocular cysts about forty pounds in weight; recovery.—Mrs. Sarah Mc. was sent to me by Dr. James Graham. She was twenty-eight years of age, married, no children, and no miscarriages. She always menstruated regularly previous to this year, during this year she had bled two or three times each month. After postponing the operation once or twice in consequence of unexpected bleeding, the third time it was performed; though she bled the night before and was bleeding during the operation. She had had no leucorrhœa, but little diffi-

culty in micturition. No oedema in limbs or abdomen, no nausea, and no vomiting. She first noticed the tumor one year ago in the the right iliac fossa, the abdominal enlargement was characteristic, the veins were enlarged, the wave was well transmitted, the uterus was small and anteverted.

Operation October 18, 1886; present Drs. J. C. Da Costa, Fisher, Graham, Koons, and Gardner. The abdomen had been prepared the day before with turpentine and mercury, the latter being still on. A two per cent. solution of carbolic acid was used on the sponges and instruments. The incision was four inches in length, there was some ascitic fluid in the abdominal cavity, the cyst was multilocular and had no adhesions. Its contents were quite gummy, preventing the use of the canula, the pedicle was short and belonged to the left ovary, it was tied with silk, severed, and dropped.

Another cyst, springing from the right ovary and about eight inches in diameter, was found lying posterior to the first, it was also without adhesion and was removed in the same manner. The abdomen was cleansed with carbolic acid sponges and closed with silk as usual.

The stitches were removed on the fifth and sixth days, the bowels were moved by enema on the eighth day, the recovery was uninterrupted, the temperature never rising above 100° after the evening of the operation. The two cysts and their contents weighed about forty pounds.

The patient was able to walk about her room at the end of three weeks.

Large fibroma of the uterus. Removal of uterus and ovaries by abdominal section; death on the fourth day.—Mrs. S., aged thirty-two years, a patient of Drs. Skilling and Mac-Osker, of this city, had been ill for two years and had bleeding for sixteen months. During the last six months she had never been free from bleeding more than a week at any one time, and for the last ten weeks, she stated, she had bled daily from two to sixteen ounces, the latter amount only after exertion;

this confined her constantly to her bed or lounge. She had a good appetite, good digestion, and was well nourished though exceedingly blanched.

The diagnosis of large submucous fibroid was made when I first saw her, six months before, and full doses of ergot had been taken constantly, during all that time, without effect.

At the time of operation, the enlarged uterus reached to the umbilicus, was perfectly smooth and regular in its outline and quite movable.

On December 9, 1886, with the assistance of Drs. J. C. Da Costa, Porter, Skilling and Fisher, the operation was performed. I made a long median incision from the pubes to some inches above the umbilicus; there were no adhesions, the uterus was readily elevated and a short "Thomas" clamp placed upon its neck.

After the broad ligaments had been tied and divided, the body of the uterus was removed about an inch above the clamp.

As the abdomen was quite deep and its walls quite thick, it was utterly impossible to bring the pedicle outside, a strong silk ligature was passed through the neck, below the clamp, and tied on either side.

When the clamp was removed the parts above the ligature were found to consist of uterine walls, enclosing a section of the tumor; on removing the latter the uterine walls required but little attention to make very perfect flaps, they came together without tension and were held in position, with their peritoneal surfaces in close contact, by a continuous catgut suture. The toilette of the peritoneum was carefully made and the abdomen closed.

The uterus removed was about seven inches in diameter and contained a submucous fibroid, attached to nearly the entire inner wall; in size and attachments it is nearly identical with one, also removed by abdominal section, which I presented to this Society some years ago.

The patient rallied well from the shock of

the operation, and by the following day was quite cheerful, with good pulse and temperature, but she had secreted very little urine. On the third day some regurgitation of bloody fluid occurred from the stomach, the temperature increased and the urine was still scanty. There was no abdominal tenderness or distention. By evening delirium occurred and death ensued the following day. The nurse assured me that only three ounces of urine had been secreted during the four days.

On post-mortem examination there were no evidences of peritonitis except slight adhesions of the bowel lying in contact with the uterine stump. The ureters and the bladder, were uninjured, no bleeding had occurred, the uterine stump had remained well closed. The uterine wound was quite clean, no decomposing offensive fluids were present. Some small portions of the very edges of the flaps looked as though they were beginning to slough, though very much less than I feared would happen when I ligated the neck. I think, in future, I shall content myself with ligating the arteries of supply and omit the ligation of the uterine neck.

Stricture of the ileo-cæcal valve; chronic obstruction of the bowels. Laparotomy; digital dilatation of the stricture; recovery.—Mrs. Ann H., aged thirty seven years, a patient of Dr. D. S. Jones, of Plymouth, Pennsylvania, was admitted to the Jefferson Medical College Hospital in May, 1887. She had been in good health until the birth of a child in May, 1886. Since then she had had repeated and increasing attacks of obstruction of the bowels; during which there were entire loss of appetite, obstinate constipation, constant vomiting, great abdominal pain, and tenesmus, similar, she stated to labor pains. Lately there had appeared at these times a tumor in the lower part of the abdomen about the size of the adult fist; these attacks occurred about once a month, and as they lasted three weeks she had but a short interval of comfort between them.

When free from the attack, she stated that the tumor returned to the right iliac fossa, where she thought she could distinguish it by palpation and its tenderness on pressure. I was unable, at this time, however, to recognize any unusual mass in this situation.

I kept her under observation until an attack should occur. On May 21st an attack began, and her sufferings fully verified her statements. The tumor appeared between the umbilicus and the pubes, it was about the size, and very nearly the shape, of the adult kidney.

On May 2, 1887, in the presence of Professors Gross, Parvin, Brinton, and several other physicians, I made a median incision about four inches in length and exposed the mass; it proved to be an intussusception of the ileum into the colon with thickened and contracted ileo-cæcal valve forming the apex of the intussusception.

There were slight adhesions between the contiguous layers of peritoneum covering the bowel, which were readily broken up, and the intussusception reduced.

On examining the ileo-cæcal valve by a finger invaginating a fold of the colon, it was found to be hard and contracted. A longitudinal incision was made in the colon about one inch in length, and three from the valve, through which I passed my finger and found the valve contracted to about the size of a crow's quill (one-fifth of an inch). It was slightly thickened, quite hard, white in color, and did not bleed during the examination or subsequent manipulations. It was considered by all present to be a case of cicatricial stenosis due to some previous inflammatory action, and certainly not malignant. It was dilated, with considerable difficulty, by the introduction of the little finger, the index finger was then carried through its entire length.

The wound in the bowel was closed by a continuous silk suture, including only the mucous membrane; the peritoneal mucous coats were brought in apposition by a continuous silk Lembert suture.

All the operative procedures upon the bowel were performed outside of the abdominal cavity, the abdominal wound being kept closed by sponges. The portion of bowel outside was thoroughly washed and returned, the abdominal wound was closed in the usual manner.

There was some vomiting after the operation, the patient was kept slightly under the influence of morphine for a few days, and on a milk and broth diet. The bowels opened naturally on the eighth day, the stitches were removed on the fifth and sixth days; the temperature never rose above 100°. She returned to her home entirely free from all her previous symptoms, and remained free for several months.

[Her subsequent history appears later in this paper.]

Obstruction of the pylorus. Digital dilatation by Loreta's method; death from exhaustion.

—George H. German, aged fifty-eight years; blacksmith. His health had always been good until the last year. At the time he came under my care he had the typical symptoms of complete pyloric obstruction, with a well-marked tumor at the usual situation, it was not very large nor hard, had no marked outlines, and presented the characters of pyloric thickening more than those of a malignant growth. The microscopical examination of the matter vomited gave no evidence of malignancy, and no vomiting of blood had occurred. He was greatly emaciated, and so feeble that at first I refused any operative interference; the operation had, however, been explained to him, and its performance promised before he came under my care, and he insisted so strongly on having a chance for prolonging his life that I consented.

The operation was performed at Jefferson Medical College Hospital May 22, 1887, in the presence and with the assistance of Professor Brinton, Dr. Wirgman, and quite a number of others.

As the patient's condition warranted no further interference than mere dilatation of

the pyloric orifices, and as the usual incision to the right of the median line would have exposed the stomach nearer to the pyloric orifice (as shown by the position of the tumor) than I desired, I made the incision directly in the median line, about three inches in length, beginning an inch and a half below the ensiform cartilage.

The stomach was readily exposed three inches from the pylorus. The examination of its exterior threw no new light on the character of the growth, though the stomach at this point was found to be slightly adherent to the structures beneath. An incision, a little over one inch in length and three inches from the pyloric orifice, was made in the stomach, parallel to and directly beneath the abdominal incision, the coats of the stomach were much thickened. Complete stenosis of the pyloric orifice was found when the finger was introduced, this was readily dilated with the little finger, while the tumor was supported outside the abdominal walls with the left hand, the orifice was then further dilated by the index finger.

The thickening and infiltration of the walls of the stomach at the point of incision prevented the use of the Lembert suture, their softened condition evidently required the suture to pass through all the coats. As the abdominal wound was directly over that in the stomach, the latter was closed and brought in contact with the abdominal wound, so that the visceral and parietal peritoneum might adhere, and if any of the contents of the stomach should escape or any pus form, they might readily drain outside and not into the general peritoneal cavity. Fine silk with two needles were used, these were carried from within outward through all the coats of the stomach, one needle through each lip, then crossed and one brought through each lip of the abdominal wound, a few were carried direct without crossing. These sutures were tied and the abdomen closed.

Nothing was given for the first twenty-

four hours by the stomach, the rectal nourishment upon which he had relied previous to the operation being continued. No vomiting occurred during the four days that he lived, on the second day milk and hot water were given in small doses at regular intervals, and as they were well borne they were increased in quantity and frequency. Notwithstanding the fact that he took over a quart of milk per day, besides rectal nourishment, he sank and died exhausted on the fourth day after the operation. There had been no elevation of temperature.

At the autopsy the stomach was found firmly fastened to the abdominal wall, there was no evidence of any peritonitis. In the interior of the stomach it was difficult to find the point at which the incision had been made, the sutures being completely buried in the folds of the mucous membrane. The pyloric thickening was inflammatory in character, and not due to any malignant growth.

There was complete obstruction previous to the operation, there was none after, and had the patient been subjected to operative interference earlier there is no reason why his life might not have been greatly prolonged.

Ovarian tumor. Removal; recovery.—Miss A., aged thirty-eight years, had noticed a painless abdominal enlargement for a few months. On examination I found a small ovarian cyst, lying in the median line and rising slightly above the umbilicus. On May 23, 1887, with the assistance of Drs. Da Costa, Edward Graham, Sweet, and Fisher it was removed. The incision was about three inches in length, the tumor was non-adherent. It was tapped, drained, and removed in the usual manner; its pedicle was tied with silk and dropped.

The peritoneum was brought together with chromicized catgut, the interrupted silk suture being used for the other tissues. The patient made an uninterrupted recovery, her temperature never rising above

99.° The tumor weighed about fifteen pounds.

Two penetrating stab wounds, one puncturing the liver and one the transverse colon.

Laparotomy; recovery.—Michael H., aged twenty-five years, was admitted to the Jefferson Medical College Hospital at 3 P. M., of September 9, 1887. About three hours previously he had been stabbed twice with a small and pointed amputating knife, during a quarrel in a house of ill-fame.

There were two wounds, both penetrating the abdominal cavity both at the outer edge of the right rectus muscle and both running diagonally toward the median line, and penetrating the peritoneum at that point. The upper was one and a quarter inches long and was just below the edge of the ribs, it terminated in the left lobe of the liver, from it there was a free venous bleeding.

The lower wound was three-quarters of an inch long; it was three inches below the upper and just above the level of the umbilicus. After hurried antiseptic preparations, I opened the abdomen in the median line from the ensiform cartilage to the umbilicus, and found an opening about five-eighths of an inch in length in the transverse colon parallel to its length and near its mesenteric attachment; this was closed by the continuous silk Lembert suture. The suture failed to control a small artery in this wound, but a separate stitch carried under it and tied secured it.

The wound in the liver was small, it had ceased oozing, and as its lips were in fair contact no suture was used. The abdomen was cleansed, the wound closed and dressed in the usual manner.

The following morning his temperature was 101° and in the evening 100°; after that, though it kept quite low, varying from 98½° to 99½°, he had a sharp attack of peritonitis, lasting three days, during which time there was constant regurgitation of bloody fluid. The abdomen was painful and greatly distended with gas, requiring

the constant use of the long rectal tube to relieve him. The stiches were removed on the fourth and fifth days, and the abdomen supported by adhesive plaster. He was discharged cured on September 29th, having been in the hospital twenty days.

Epithelioma of the ileo cæcal valve. Resection of three inches of intestine; recovery.—Mrs. H., aged thirty-eight years, the same patient whose ileo-cæcal valve was dilated seven months before (see page 529), came complaining of a return of her former symptoms, her sufferings were slight, but were evidently of the same character as before the first operation.

November 1, 1887, with the assistance of Drs. Allis, Kendig, Stillwell, and the resident staff, I again opened the abdomen. A straight incision parallel to the median line was made, it was three inches in length terminating at a point one inch outside the middle of Poupart's ligament. The incision was made at this point as the nearest to the portion of bowel I wished to attack, because I feared adhesions might have formed after the last operation, rendering it inaccessible from any distant incision; and, further, if it became necessary to form an artificial anus, it would be a convenient point.

I had decided that if it should prove to be a recontraction of the stricture, to make a longitudinal incision about two inches in length carried through ileum, ileo-cæcal valve, and cæcum, bringing the two ends of the wound together and sewing it up transversely; this would best be made on what would be the under surface of the bowel when the patient stands erect. I tried this on the cadaver and found it practicable, and that it increased the circumference of the bowel, at that point, about two inches.

The head of the colon was readily found, there was no return of the intussusception, no adhesions had formed, though in reducing the intestine at the first operation there had been slight bleeding at a number of points where adhesions were torn. The scar of the original intestinal incision was scarce-

ly perceptible. At the ileo-cæcal valve, however, there was now a decided tumor, and it was now evidently epitheliomatous.

An incision was carried into the mass verifying the diagnosis, the entire valve had become an irregular mass of epitheliomatous tissue varying in thickness from a half an inch to an inch, entirely obstructing the gut except an aperture in the centre, about one-third of an inch in diameter. The circumference of the valve was less thickened by the disease than the centre.

The abdominal wound was now closed by sponges, leaving the diseased parts outside; three inches of the bowel, including the disease, were removed; no clamps were used, the bowels being held in the hands of an assistant; a few vessels were tied.

As the mortality is very high when the separated ends of the bowel, in these operations, are sewed together and returned, I had decided if it became necessary to excise, to establish a temporary artificial anus and begin at once the proceedings for its cure. With this end in view, immediately after the removal of the diseased bowel and the ligation of the bleeding vessels, one blade of Dupuytren's enterotome was introduced into each portion of bowel, viz., one into the ileum and one into the colon, the two blades were brought together and the screw run down firmly. A strong ligature was placed on the ends of the bowel, including the enterotome, to prevent the escape of feces during the subsequent manipulations. The bowel was washed, placed in position at the lower angle of the wound and fastened there with a continuous silk suture. The abdominal wound was closed, covered with cheese cloth saturated with mercurial solution, and this in turn with patent lint soaked in sweet oil. This is the best method that I have found to protect abdominal wounds close to an artificial anus.

The heavy ligature around the ends of the bowel was now removed. A ring of cotton soaked in oil placed around the artificial anus, the outer extremity of the enter-

otome supported by oakum, and a wide bandage pinned over it.

Morphine was used hypodermically during the first forty-eight hours and then discontinued; vomiting occurred during the first two days and then ceased. Some feces appeared on the evening of the operation, and full quantities two days later.

On the eighth day the enterotome was found loose, and was removed; its removal was preceded by a passage of feces from the natural outlet. The stitches were removed on the third and fourth days, and the wound supported by adhesive plaster. After the removal of the clamp the patient was permitted to rise, and all restrictions removed from her diet.

The bowels acted naturally for a few times, when all the feces came again from the artificial anus. The clamp was again applied on the 17th, and came away on the 28th. Its removal was again followed by a few natural passages. As these ceased in a few days the clamp was applied for the third time with a precisely similar result.

As this had proved ineffectual, the method of Mr. Banks, of Liverpool, was used. A strong ligature was fastened to the middle of a heavy piece of rubber gas tubing about six inches in length, one end of the tube was passed into one bowel, the other end of the tube into the other bowel, the middle of the tube pressing against the spur. The position of the bowel in this case was such that the rubber tube was retained with difficulty. After trying it for ten days without success, I substituted the apparatus which I here show, consisting of two pieces of very heavy rubber gas tubing joined together like the letter **T**. The upper part of the **T** is about one and a half inches long, and presses directly against the spur; the other tube is three inches long, and merely serves to keep the first in position. The large base is circular, is three inches in diameter, and serves as a pad to prevent the escape of feces from the artificial anus. The three pieces of rubber are joined firmly by a strong

wire running from the first to the last piece, and twisted tight. This method proved at once satisfactory, and a large proportion of the feces began at once to pass by the natural outlet, and continued to do so. The patient is now in the hospital, but I shall make no attempt to close the fistula until it is seen if the bowels will continue to act naturally.

During this prolonged treatment, fearing that the colon, from disuse, might contract, I directed that she should be given an injection of a quart of water daily, and I was surprised to hear that when a pint had been given it appeared at the artificial anus. By continuing these injections the capacity of the colon was rapidly increased, and when last tried it held three pints; of course, when the bowels began to act naturally this was discontinued.

Chronic obstruction of bowels by encephaloid tumor. Exploratory laparotomy; artificial anus established; recovery from the operation; death fourteen days later from obstructive peritonitis arising from tumor.—Francis O. B., aged thirty-eight years, Irish, carpet porter, a patient of Dr. James Robinson, with whom I saw him January 18, 1888. He was in perfect health until June, 1887, when he began to have slight cramps, once or twice daily, and occasionally at night, in the left iliac fossa. He continued working until December 24, 1887, and has been confined to bed since. His attacks had not increased greatly in severity, but he was getting much weaker. He had lost fifty pounds in weight; he vomited once or twice a week; it was not stercoraceous. He suffered greatly with tenesmus, which produced from ten to fifteen passages during the night, each being a small, hard, white mass about the size of a cherry.

The left iliac fossa was slightly tender. The abdomen was distended with gas. The pulse was 104, and the temperature normal. His pain was uninfluenced by food. He had never passed blood by the bowel. The rectum was found empty and unobstructed.

Later I removed him to Jefferson Medical College Hospital, by which time his pain was nearly constant, and he was unable to sleep without large doses of morphine. Some days after admission his temperature increased to 103° ; there was increased abdominal tenderness and other evidences of a slight attack of peritonitis, which disappeared in forty-eight hours. On the 28th he passed wind by the penis, and again on the 30th.

On January 30, 1888, with the assistance of Drs. Allis, Nancrede, Robinson, and the house staff, I opened the abdomen. A median incision about four inches in length was made, and a lobulated tumor the size of an orange was found in the angle between the bladder and the spine. The sigmoid flexure of the colon was tightly adherent to and partly buried in the tumor. The cæcum was carried toward the median line, and was also adherent to the tumor. The lower end of the ileum was closely adherent, and its calibre nearly obliterated.

The colon was contracted and collapsed; all the bowels above the point of obstruction in the ileum were greatly distended.

As nothing could be done with the growth, a fold of the ileum a few inches above the point of obstruction was brought out of the wound and fastened in its lower angle by a few silk sutures, a rubber drain was introduced, as a glass one failed to reach the desired point, and the abdomen closed. The drain was removed about twelve hours later, as I feared to have it remain in such close proximity to the artificial anus. Twenty-four hours after the operation the fold of bowel in the wound was opened, and the artificial anus established.

On the second day the patient was placed upon his usual food, stimulants, etc. The stitches were removed on the fourth and fifth days; the wound healed promptly. It was successfully kept from contamination by the discharges, by the method described in a case reported above.

At the operation a fold of a bowel was

brought entirely out of the wound; this was adopted as a modification of the method of entirely cutting off the bowel, closing the lower end with sutures, and using the upper to form the artificial anus.

The method here adopted has the advantage of rapidity, less danger of contaminating the cavity with fecal matter, as the opening of the bowel may be postponed until firm adhesions have formed. It permits any gases or other material that may be imprisoned in the lower bowel to escape, and quite as effectually prevents any material passing the artificial anus into the lower bowel.

The patient was relieved of his pain, the vomiting ceased, and he slept well; had a fair appetite, and improved in appearance. All fecal discharges, and they were very copious, came from the artificial anus, and none by the natural outlet after the first twenty-four hours.

On the thirteenth day there was a slight elevation of temperature, and all fecal discharges suddenly ceased, injections of warm water carried some distance above the opening by a soft catheter were without effect; by evening vomiting and other symptoms of acute obstruction occurred, and he died twenty-four hours later, or fourteen days after the operation.

The post-mortem examination was made on the same day. The abdominal wound was solidly healed; the bowel at the artificial anus, was firmly attached to the abdominal opening. The abdominal cavity contained quite a quantity of opaque serum; the opacity was greatest near the tumor, and on pressing the tumor, thick, purulent-looking fluid exuded from it. This was probably the origin of the fatal peritonitis. The bowels were but slightly congested, and at one point only, about twelve inches above the artificial anus, were adherent. The bowel at this point was sharply flexed upon itself, and adherent for about three inches, causing complete obstruction. This adhesion was readily broken down by the

finger, and it would probably have yielded to an active saline.

The condition of the bowels, as found at the time of operation, was verified, the tumor was broken down, and had ulcerated into the sigmoid flexure; a large number of secondary nodules were scattered through the liver. The microscopical examination was made by Dr. Longstreth; the tumor and the nodules from the liver were reported by him to be encephaloid.

ASSOCIATION OF
AMERICAN
MEDICAL
EDITORS.

Address of the President.

BY

WILLIAM PORTER,

M. D.,

ST. LOUIS.

Brother Editors: It was your good pleasure to elect me your President for the year that closes with this session; it has been a year of anxiety and of work; a campaign year, and a year of achievement. I thank you all for the honor

which your choice conferred, and for the support which accompanied that choice, yet I have greater satisfaction in remembering what you have done in 1887, to strengthen our National Association and to aid in the affairs of the last Medical Congress.

Through the success which has crowned both of these enterprises, a new dignity has come to the profession of our country, and you, gentlemen, as watchful guardians of what is rightfully yours, will see that the prestige does not depart from those who have so richly earned it.

Two things have been clearly demonstrated during the year that has gone. 1st, the power of the medical press which has so large a part in this Association. 2nd, the value of unity.

It was to a large extent through the united efforts of the editors of medical journals here represented, that a once desperate possibility became a glorious certainty. A heavy responsibility was lifted from your shoulders, as in last September

the world's representatives grasped your hands in hearty approval.

Pleasant as is the retrospect, we must not yet rest upon our oars, satisfied with the progress already made. The current of life bears us not onward but backward, unless continued effort is put forth.

In our land with its ever new development, in our profession with its continued advance, there is no rest for the medical editor, no point of complete attainment. While there has been much to do in the past, there is more to do in the future. While we have had need of each other in the last decade we have greater necessity for union in years to come. Fully impressed with our strength and our requirements, I have desired to depart from our usual custom to-night and to discuss with you, plans for a stronger organization and questions of importance in our work.

It may be asked, why have we need of a well organized Association? The clouds of '87 have rolled by and the peace of '88 is upon us, all is well. Gentlemen let me remind you that the God who made men, made them ambitious, and ambition in our day, means rivalry.

I would not attempt to detract from the honor and dignity to which many of our great institutions in the East have attained, nor would I undervalue the untold influence of some of the few medical journals not represented here. We are proud of their work, but we must not forget our part in life's struggle. While the years of advantage have given to the East the older and stronger universities, the new wealth and energy of the West is giving large promise of a most substantial harvest.

Do not understand me that I would urge strife or sectional jealousy. Not for a moment would I hinder the dove which returns to the grand old ark of our National Society. But though science is cosmopolitan, personal interests may be local. I love my city better than some other city. I esteem my true and tried associates better

than those of whom I know but little. I appreciate all honest workers in medical journalism, but I especially want to see the success of those interests here represented. This success we can accomplish if we are willing to labor with honest united effort.

It is one thing however to work for individual advancement, it is another, yet not necessarily antagonistic, to do all possible for the largest general result. While it is right that men should form local attachments and have preference for place and person, it is wrong if in so doing, they ignore others who would exercise the same right, and deny that equality which in this land is the birthright of every member of our glorious guild.

I am not an alarmist. I have abiding confidence in the ability of this Association and of the great national body with which we are so closely related, to go onward, to preserve their identity and usefulness, and withal to represent the profession of the United States.

But I fully understand that this position can only be maintained, by resolving to stand firm, determined that those interests which are the inheritance of each of us, shall not be narrowed by sectional lines, nor be endangered by personal jealousies. I believe in peace and harmony, but I prefer that peace which is made secure by strength, and that harmony the keynote of which is well secured right. It is well to meet those with whom we have differed should they so desire, but it may be that in advancing half way we should do so in solid column.

The honest wish of every true American physician is that we may have a united profession and that the sharp dividing lines so recently drawn may be obliterated. Let me urge upon you that in attempting to reach this end, we must not permit a process of absorption to go on, which shall reduce one part of our land to the condition of an outlying province controlled by, and tribu-

tary to another part. Rather let us seek to cement the union of professional brotherhood which should everywhere exist, by being true to our own sense of right. Let us honor the proffer of fellowship by extending the hand of self-respect filled with the fruits of patient labor.

If we would grow stronger and more worthy of the trust which is reposed in us by the students of current medical literature, we must guard against two dangers. The first is dissension in our own ranks; the second, attacks from without. I do not fear the second, if we are careful to avoid the first.

There never was a time when a full understanding with each other, and strong, true aggressive action has been more needed than it is now. If we would prevent this goodly kingdom of ours from becoming a dependency, we must stand shoulder to shoulder. The Star of the East has reached its zenith, and "Westward the star of empire takes its way." The light of the former is bright and steady, but the imperial star of modern progress shines for us. Its brilliant rays reach every corner of our land, and its course is not stayed by mountain or river.

But words are vain if they do not call forth action. I would strengthen your faith in your mission, but "Faith without works is dead." In this assembly, is power; I would arouse it. There is enterprise, let it be stimulated. We have harmony of thought and unity of purpose; let us come closer together in a more definite organization for more effective work.

A strong Association can accomplish much where individual effort may be futile. There are many questions which demand attention. The further advancement of our state and national associations, legal control of quackery, the international copy right, the questions proposed for discussion to-night, the upholding of our best schools and journals, and the exposure of poor ones, these are some of the matters of vital importance which call for harmonious and

well organized action, by the medical press of the land.

Do I overestimate the need of organization? Remember that in no other nation in the world are there so many medical journals, so many medical editors, ready to engage in any right enterprise for professional justice and advancement, and yet I do not hesitate to say that in no other country is there so much needless friction, so much misunderstanding of men and their motives. Is not this to a large extent, the result of a want of personal knowledge of each other, of a lack of a needed conference and plan?

I would oppose limitation of the utmost freedom of thought or speech, and only urge that which will more firmly unite us, and make more potent such action as we can together endorse. This much we need and let us have it.

It has been charged that this Association is organized and conducted, for purposes other than those of pure journalism. I need not use this time and place to refute the slander, but it gives me the opportunity of asserting, that if to band together, to promote those interests which are just and right and common to us all, to expose fraud in and out of the profession in the North or South, to insist that he who is worthy shall be esteemed whether he comes from the far West or the distant East, to build up our local and state societies, to further the cause of our National Association, if to unitedly plan to keep these and kindred questions before the profession be a conspiracy, then are we to-night conspirators of the deepest dye.

I glory in such an alliance. Aye, make the circle stronger and larger till it shall include all who have the oath of editorial knighthood upon their lips and the kingly purpose of right in their hearts.

In you, my seniors in years and experience, have I all confidence that the endurance and judgment which have enabled you to guide others through the wilderness

of ignorance in the early stage of our professional history, will not desert you now when keen adventurers, and plausible dogmas are enticing the unwary at every turn.

Upon you, my brothers, younger but no less zealous than these, falls the mantle of the leaders who have passed up out of sight. It is your privilege to show yourselves strong yet considerate, aggressive yet gentle, ready each week or month to couch a lance in defense of professional honor, or to speak a word of encouragement and approval to him who needs it.

Indite such thought that men shall catch up the leaves which you scatter far and wide, and give you in return, the garland of praise. May your good deeds be known, and all your mistakes forgotten.

THE
INTERNATIONAL
JOURNAL

Of surgery and antiseptics, is the lengthy and somewhat high-sounding title of a new monthly publication devoted exclusively to surgery and antiseptics, and edited by Milton Josiah Roberts, M. D., New York. The January number contains a copyrighted article by the editor on a "New System of Bone Surgery."

THE
NEW YORK
COLLEGES.

The New York medical schools, no doubt, have many advantages. But from a recent communication in the *Medical Record* by a student at one of the colleges, it would seem they have their disadvantages as well. He states that the lecture rooms are so crowded that it is almost impossible to obtain seats, and having procured his dissection ticket he waited for months for an opportunity to dissect, but at last was compelled to go to a Homœopathic college to get to dissect.

This may all be very well in didactic teaching, but clinical instruction under such difficulties is almost impossible.

PROGRESS

A MEDICAL MAGAZINE. ISSUED MONTHLY.

DUDLEY S. REYNOLDS, A. M., M. D., EDITOR.
THOMAS C. EVANS, M. D., ASSISTANT EDITOR.
W. C. DUGAN, M. D., BUSINESS EDITOR.
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VOL. II. LOUISVILLE, MAY, 1888. No. 11.

KENTUCKY STATE MEDICAL SOCIETY.	The Thirty-third Annual Meeting of the Kentucky State Medical Society will
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be held at Crab Orchard Springs, commencing Wednesday, July 11. (The date has been changed from the first Wednesday in July, that being the 4th). A full attendance is expected, and you are urged to be present. Titles of all papers to be offered, with the names of authors, must be sent to the Secretary, Steele Bailey, M. D., Stanford, by June 15.

The Crab Orchard Springs Co. offer reduced rates of board to members and their families.

The officers are: John G. Brooks, M. D., Paducah, *President*; Louis S. McMurtry, M. D., Danville; George Beeler, M. D., Clinton, *Vice Presidents*; J. Steele Bailey, M. D., Stanford, *Permanent Secretary*; Fayette Dunlap, M. D., Danville, *Assistant Secretary*; Edward Alcorn, M. D., Houstonville, *Treasurer*; J. L. Taylor, M. D., South Union, *Librarian*; Edward R. Palmer, M. D., Louisville, *Chairman Committee of Arrangements*; Dudley S. Reynolds, M. D., Louisville, *Chairman Board of Censors*.

Crab Orchard Springs is a delightful place for any sort of convention, and the Kentucky State Medical Society has a keen appreciation of the eternal fitness of the fried

chicken, and the rare privilege of ordering from private cases those necessary tonics to which the fatigue of travel seems most readily to yield.

Brother Palmer, will, however, take care to provide the "bruised sprig of mint, and surround it with the eloquence of tinkling ice, that it may yield the winters' frost to grace the summers' hospitable warmth, not forgetting to add the amber tinted spirit of the yellow corn, sweetened with the crystalized essence of sugar cane." With the keen foresight of the FALCON he offers the benediction of the fragrant herb in its dying hour to grace the waiting soul that may be tempted to linger as the meeting disperses.

Not a member of the profession on the broad face of the earth but Palmer would hail his coming with a joyous welcome.

NATIONAL DRUGGISTS.	One of the brightest and best pharmaceutical journals in the United States is the <i>National Druggist</i> , edited by Frank L. James, of St. Louis. The microscopical department is an attractive feature, and will serve to extend its already large subscription list in the medical profession.
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THE BROOKLYN MEDICAL JOURNAL,	Is the title of a new medical monthly which commenced its first volume with the year 1888. It is the official organ of the Medical Society of the County of Kings, under the editorial management of Drs. Hutchins, Hunt, Butler and Bailey. In making its <i>debut</i> it modestly apologizes for intruding on the already crowded field on medical journalism, by saying, "what other city of 750,000 inhabitants and 1,000 physicians is without a medical journal?" The numbers so far have contained many well-selected original articles, and certainly deserves the support of the profession generally, as well as the County of Kings. We are glad to welcome the new comer to the field, and give it an honored place on our exchange table.
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PROGRESS

A Monthly Magazine for Students and Practitioners of Medicine.

"I HOLD EVERY MAN A DEBTOR TO HIS PROFESSION; FROM THE WHICH AS MEN OF COURSE DO SEEK TO RECEIVE COUN- TENANCE AND PROFIT, SO OUGHT THEY OF DUTY TO ENDEAVOUR THEMSELVES, BY WAY OF AMENDS, TO BE A HELP AND ORNAMENT THEREUNTO. THIS IS PERFORMED, IN SOME DEGREE, BY THE HONEST AND LIBERAL PRACTICE OF A PROFESSION; WHEN MEN SHALL CARRY A RESPECT NOT TO DESCEND INTO ANY COURSE THAT IS CORRUPT AND UNWORTHY THEREOF, AND PRESERVE THEMSELVES FREE FROM THE ABUSES WHEREWITH THE SAME PROFESSION IS NOTED TO BE INFECTED; BUT MUCH MORE IS THIS PERFORMED, IF A MAN BE ABLE TO VISIT AND STRENGTHEN THE ROOTS AND FOUNDATION OF THE SCIENCE ITSELF; THEREBY NOT ONLY GRACING IT IN REPUTATION AND DIGNITY, BUT ALSO AMPLIFYING IT IN PROFESSION AND SUBSTANCE."—BACON.

VOL. II.

LOUISVILLE, KY., JUNE, 1888.

No. 12

GENERAL MEDICINE.

THE RELATIONS OF SPECIAL, TO GENERAL MEDICINE.

BY

SWAN M. BURNETT,

M. D.,

*Professor of Ophthalmology
and Otology in the
Georgetown Uni-
versity;*

*Director of the Ophthalmic
and Aural Clinic at the
Central Dispensary,
and Ophthalmic
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Garfield*

Hospital, Washington, D. C.

*An Address Delivered at
the Opening of the
Special Courses
at the*

*Medical Department of the
Georgetown University,
April 2, 1888.*

When the Dean of your faculty informed me that it was expected that I should deliver the opening lecture of the course of special instruction, I must confess that I was disposed to ask to be excused from any formal address, on the ground, principally, that I had nothing new to offer. But when I reflected that there is said to be nothing new under the sun, and that he may consider himself happy as well

as fortunate who once in a lifetime has the opportunity of presenting anything startling to the world, I deemed that my plea for an excuse was not valid and would be overruled in any court of appeal where justice reigned. And when I again reflected that the most important truths are not new, but are coeval and co-extensive with the universe, and lose not their lustre by the constant trituration of the tides of time, but, on the contrary, increase in brilliancy as they are polished on the hard wheel of experience, it seemed to me, that after all, what we most needed at the beginning of our studies was a re-presentation of some of the old facts

which are in danger of being covered up and lost sight of, in the ever-increasing in- flow of newer and falser ideas with which the medical world is being constantly inun- dated. Old facts, like old friends, are best, and for the same reason, that both have been tried and not found wanting.

I do not mean to disparage new facts. Far from it. They should and will always meet with hearty welcome, but they must first vindicate their right to acceptance be- fore they find a permanent place in the structure of scientific medicine.

I need scarcely tell you, that it is not my purpose to present to you, this evening, any resumé or even any considerable number of the established principles of medicine. My knowledge of my own incapacity for doing so would not allow me even had I no con- sideration for your patience, which, with a memory of my own student days still fresh in my mind, I most certainly have.

It was most natural, however, that the opening of this course of special instruction should suggest some thought on the relations existing between what is called general medicine and the specialties; and I am led to speak to you, to-night, on these relations all the more because it would seem from what we hear and read that some erroneous opinions on the subject are afloat in the minds both of the general practitioner and the specialist.

As I remarked just now, I have nothing new to offer in the way of fact or suggestion on this important question, but I hope by

the presentation of a few well-known general principles and universally acknowledged facts, to find for you just and proper connection between the two, and to show to you how they are mutually dependent and are equally useful in furthering the progress of scientific medicine, and in advancing its grand humanitarian purposes and aims.

It has been said again, and again, that we live in an age of specialism, but with much varying significance on the part of those who enunciate this aphorism, which has now become almost a platitude. Some utter it with a derogatory shake of the head and a tone which holds much dismal forebodings for the future of our science and art; others, with the hopeful air of the optimist, who sees in it a promise of the fulfillment of those things which surpass even our most extravagant dreams.

As is always the case, the truth lies between these extremes, but yet it is certainly a fact that it lies much nearer the latter, than the former. It is perfectly true that never since the beginning of our civilization has there been such a division of labor as we have today, and it is so because it falls in with the natural law of growth and development, and forms a part of that grand process of evolution whose end is reached only in perfection—in the utter and complete harmony of man with his environment.

As a part of this comprehensive evolutionary process, we find that in all organizations, whether vegetable, animal or social, there is always a progression from the homogeneous to the heterogeneous, from the simple to the complex, and from a combination of function to a higher and higher differentiation of faculties. This law of progress is inherent in all the primal forces, and we can no more stop them than we can reverse the laws of gravity. In the lowest forms of animal life one organ performs many offices. The *Amœba* feels, grasps its food and digests it, all with the same portion of its body, and in some organisms seeing and

feeling are the result of impressions made on the same system of nerves.

So, also, in the simple and more primitive conditions of mankind, many of the functions of society are performed by the same individual. In times not very remote, the office of priest and physician, the healer of the body and the consoler of the soul, were united in the same person.

It would hardly be profitable, even did time permit, to go over again for the thousandth time, the history of the development of medicine. It is a matter of common knowledge and a part of the history of civilization that scientific medicine is the outgrowth and lineal descendant of astrology and mysticism; that the surgeon is but a highly developed and educated barber, and we have learned from the historians of our art and the cultivators of our science; how first one, then another line of practice became detached from the body of general medicine and surgery, and assumed an independent function for itself.

There is one point, however, in connection with this establishment of special practice which seems to me vital in its significance as to the right of specialties to exist, and which, it would appear, has been quite lost sight of in the discussions which have taken place on the subject. It has been said, and with perfect truth, that specialties are not new, and that in one form or another they have existed since the early days of strictly scientific medical practice. Men practiced exclusively as oculists long before Beer, or Daviell, or Sichel, or Gräfe. During the last, and even at the beginning of the present century, they wandered from town to town, on the continent of Europe and in England, and drew crowds of afflicted to them wherever they went, and more than one won high distinction in the art they practiced.

But, gentlemen, there is a world-wide difference between that man and the typical ophthalmologist of the present day, such as Bowman or the late lamented Arlt. How-

ever efficient the peripatetic of the last century may have been, he was to all intents and purposes a charlatan; for I take the broad ground that that man is a charlatan whose special skill is not based on general knowledge. No matter how expert the practitioner may be, how deft the hand, how true the eye, or how prompt the remedy, the claim for excellence which is not based on a knowledge of fundamental principles, must hold more or less of the clamor of charlatanry. This, it seems to me is the pith and marrow of the whole matter, and constitutes the difference between "eye doctors" and ophthalmologists, "throat doctors" and laryngologists, in a word, the difference between legitimate and proper special practice and the horde of self-styled "specialists," whether practicing under the authority of a diploma and the protection of a code of ethics, or not.

I don't think any one here present will be, in any way, inclined to dispute this general proposition which is almost axiomatic in its self-evidence, and you may ask why it is reiterated now in the full-flooded sunlight of modern exact and scientific methods of thought and practice, where the study of fundamental laws and the principles of generalization are carried to an extent, not hitherto known in the history of the world. For the characteristic of this era of thought and investigation is a searching after these general laws and in tracing out, as far as possible, the evolution of results from their primitive causes. It is precisely because of these facts which are indisputable, that I claim your attention to a possibility of danger, that I utter a note of warning. In the warfare of science and humanity, in which we are engaged, we should never allow ourselves to be lulled into any delusive sense of security. Eternal vigilance is the price we must pay, not for liberty alone, but even for the Truth itself. There can be no doubt but that all special practice tends to narrow the view, and distort the vision by an exaggeration of some parts and the minimiza-

tion of others. Such a result is inherent in the workings of the human intellect, and offers one of the most regrettable bars to the progress of investigation.

Men are naturally prone to place undue importance on the things coming within the perview of their own peculiar field of investigation. The microscopists almost inevitably regards the progress of science to depend solely upon a more complete and fuller knowledge of the ultimate constitution of tissues; the biologist deems a study of the gradually developing forms of life of the first importance, while the physicist considers everything as dependent upon atoms and molecules, and that a knowledge of the laws governing them forms the foundation upon which the superstructure of the wisdom of the universe must be constructed.

And coming down to our own branch of science it is no difficult matter to demonstrate that the followers of each of the legitimate specialties, though they may hardly acknowledge it to themselves, but too often consider the other branches as simply adjuncts to their own, and are tolerant of them only because of an occasional stray contribution to general knowledge which they may find useful. The surgeon has a not too frequently concealed contempt for the inefficiency of internal medication, while the physician shivers with horror at the routine opening of the great cavities of the body so often made with no other justification than the fixing of a diagnosis which seemed to be obscure. The gynecologist is thoroughly convinced in his own mind that the universe revolves around a uterus, and that it is indeed the womb from which issue the greater part of the woes of womankind and the world. And so on with all the other specialties, excepting, of course, that of ophthalmology. There are tricks in all trades but ours, but yet there are persons wicked enough to say that ophthalmologists consider that not only the expression of all human emotion, but likewise all human ailments has its residence in the eye. They also say other

things about us, based, of course, on envy, malice and all uncharitableness, such, for example, as that we have exhausted the Greek language in finding terms with which to terrorize timid patients and appall the uninitiated, and attributing to us an assumption of superiority over the rest of our brethren, because of our closer connection with the so-called exact sciences. They also accuse us of turning the children of this generation into grandfathers and grandmothers before they have left off their pinafores, and of founding a race of spectacled human beings. And to a certain measure of these accusations I have no disposition to plead "not guilty." They are truer than I wish they were. It would, however, be strange, if one, who constantly sees such ulterior bad effects to remote and not directly connected organs, the result of faulty constructed eyes, pass away, as if by magic, on the use of properly adopted glasses, should form a very high estimate of the value of correcting the optical defects of the eye; and particularly would this be the case with those whose study and experience in general medicine had been limited, and whose knowledge of the achievements in other branches of the art was restricted.

Another danger of special practice is the greater temptation to hobby-riding—greater on the whole, I think, than in general medicine, where the field is wider and the opportunity for variety in treatment more extensive. General practice is not without its shortcomings, by any means, and the tendency to in-exactness and carelessness which is the natural outcome of want of positive diagnosis, and the uncertainty of therapeutic action is quite as harmful, in its way, as a routine cast-iron method of practice in all cases. But hobby-riding is a species of narrow-mindedness which is most likely to be the besetting sin of the man working in a narrow field. These imitation horses are to be found everywhere and in all branches of practice, and the riding of them often gives immense gratification to the rider, whatever

it may be to the poor patient. The self-satisfaction that he enjoys is truly enviable. He esteems himself so highly and is such a hero in his own eyes that one almost wishes that it could be real. It seems a pity that such an amount of admiration should have no valid foundation. You all know him—this hobby-rider—under his various guises, and he arises serenely, or otherwise, at all manner of times and in all kinds of places—at the medical society, at public receptions, at social calls, on the way from church and on the corners of the street, and confronts you with the virtue of his special remedy or his favorite method of treatment. This one treats diphtheria with a local application which has cured promptly at least one hundred consecutive cases; another has yet to meet a case of chronic oitis media purulenta which has failed to succumb to a plan of treatment which originated in his own fertile brain. Another's plan of extracting and treating cataracts makes the possession of a cataract rather a desirable thing in order to experience the pleasure of having it removed, while according to others trachoma has, under the new method of treatment, become as amenable to cure as an ordinary conjunctivitis.

And so it is from the cancer and consumption curer up to the "lightning doctor," which is one of the most recent and most rapidly cantering hobbies in the profession. Now, I am in no way disposed to undervalue the application of electricity in the treatment of diseases and in surgery. It is certainly a valuable as well as a powerful agent, and the faculty have acted with their accustomed wisdom in arranging that you should hear all about it in this course, at the hands of an expert. But Prof. Rosse will tell you that it is by no means unimportant to learn the limitations of a remedial agent, and he will point out to you, in due time, what you may and what you may not expect of lightning from Heaven now brought under the control of man and made subservient to his uses. It is by no means new,

and we have had our period of enthusiasm over it in ophthalmology and otology, but we have not yet established the fact that electricity is life. Its very great usefulness in proper cases cannot be doubted by any candid and fair-minded observer. All things come to him who waits, and when the proper period has passed by, the real therapeutic indications for electricity will be more apparent, and I venture to predict that when that time comes you will be able to purchase a \$300 battery, second-hand, at a greatly reduced price.

It may be proper, however, to state just here, that though hobby-riding, as a rule, originates with the specialist, the most reckless steeple-chasing is done by the general practitioner who takes it up as a "fad." His ambition is to be an all-round specialist, combining in his own person the virtues of all the special branches, and he seeks to obtain reputation with, the customary substantial accompaniments, on account of this combination of skill and knowledge superior to his fellow general practitioner. He is the man who, while decrying specialists, appropriates or attempts to appropriate the results of their labor.

Of course he has a certain measure of a certain kind of success. All persistent energy must produce a result—it is a law of nature, but it is not a success which you should envy or strive after. And besides, such a vaulting ambition quite frequently overleaps itself. The world is neither so ignorant nor stupid as we are wont to think it, and it has a very keen nose for "cranks" and "crankism." There was a general practitioner of my acquaintance—not a resident of this city, however—who having read in the journals that many nervous affections had their origin in anomalies of refraction of the eye forthwith put all his patients, it mattered not with what ailment, under examination for glasses. Soon a larger part of his clientèle were viewing the world through spectacles, for there is scarcely a pair of eyes in which some irregu-

larity cannot be found under a moderately careful examination.

An irascible old gentleman suffering from one of his periodical attacks of gout, was solicited by officious friends to send for this physician. "What!" he thundered out, "send for *him*? why, *blank* him he wouldn't do anything but put a pair of *blanked* spectacles on my toes." So you see, we don't always hide our weaknesses and foibles from the world as much as we think we do, and it sees through our pretenses much more clearly than we like sometimes.

And in looking back over the history of legitimate medicine, practiced with all desire for the very best results and by some of the most honest men we have, (for honesty and broad-mindedness are unfortunately not always associated), we find everywhere this strong tendency to follow the fashion, as the traditional sheep, bound over the fence after the bell-wether. It is such an easy thing to let somebody else do the thinking for us, and tell us what we are to do, and it is so soothing to a disturbed conscience to say to the world and ourselves: "I do this on the very best authority." At one time iridectomy was a routine plan of treatment in a majority of the diseases of the uveal tract, and fifteen years ago was done, perhaps, a hundred times where it is done once now. And it is a well-accredited fact in gynæcology, which I do not think gynæcologists themselves will claim to the credit of their branch of the art, that the present generation are mainly engaged in sewing up the incisions made by their predecessors. If then we find these temptations to fashion and routine practice yielded to among men with the most liberal views and with the broadest foundation of general knowledge and acquirement, what may we expect if special practice is entered upon before this general knowledge is attained, and how earnest should be our endeavor to avoid the pitfalls and snares into which this narrow-mindedness inevitably leads us?

But, gentlemen, there is a reverse side

to the shield, and there are some who contend that this is the golden side. The time was, and not so very far back either, when little could be said in favor of professed specialists, and when specialism in its truest and best sense, as we understand it now, could hardly be said to exist. But I make the assertion now, with a confidence which defies a successful contradiction, that it is to true specialism, and persistent and well-directed labor in restricted fields of investigation and research, that medical science and art owe their present position so far above anything that has been known in their history. But it is so, I hasten to add, because the specialties have not been divorced from general medicine and from each other, but each has labored for all, and all for each. It is so because we have found that as each branch of medicine advances, it cannot detach itself from the main body without danger of being lost in the labyrinthine by-ways of profitless speculation, dangerous alike to its own integrity and to the community. We have found that the Biblical ophorism is as true when applied to science as to morals, that the hand cannot say to the body "I am not of thee," nor the eye to the head "I am not of thee;" that as one organ or set of organs cannot be separated from the others, one line of practice cannot exist in healthful and profitable vigor apart and distinct from the body of general pathology and therapeutics; that we cannot have one set of pathological principles for the eye, another for the skin, and still another for the nervous system.

No two fields of special practice would seem to be removed farther from each other than ophthalmology and gynæcology, and yet it has been with great interest as well as instruction that I have lately followed out the very marked analogy of the surgical principles involved in the two capital operations of each—namely, the extraction of cataract and ovariectomy. In both of these operations we have, as the initial step, an opening of one of the cavities of the human body,

which has for its ulterior object the removal therefrom of some of its contents, which have undergone pathological change. Cataract extraction is much the older operation and was an established successful procedure long before ovariectomy was more than a dream in the brain and hope of the budding gynæcologist. And if the surgical principles involved in the extraction of cataract had been at that time carefully studied by the general surgeon, ovariectomy, with its enormous benefits and untold relief to human suffering would have been added to the triumphs of our art many years before it was. So that we may justly claim that ophthalmology led the van of progress in that particular. Much discussion was indulged in during the earlier history of ovariectomy as regards the length of the incision, and there has been much difference of opinion as to the size and position of the corneal incision in cataract extraction, but at the present time, the same surgical principle is held to apply to both, that the size of the incision is a matter of no particular consequence, so long as it is large enough, to give an easy exit to the body requiring removal.

In both operations the complication to be feared, is the inflammation of the cavity from which the body was removed, with the additional danger in cataract extraction, of a suppuration starting from the lips of the wound in the cornea. In ovariectomy the treatment of the pedicle was, for a long time, a much mooted question, which finds its analogue in the question, which is now agitating the ophthalmological world, as to the treatment of the iris; whether we shall cut it or leave it uncut in extracting cataracts. Quite recently an animated discussion has been carried on in regard to the washing out of the anterior chamber of the eye after extraction of cataract, for the purpose of clearing away any remaining soft and tenacious certicals. It is contended by some that it is good surgery, while others hold that such interference is dangerous and justifiable only under peculiar circumstances.

If, now, these latter gentlemen had acquainted themselves with the achievements of modern abdominal surgery they would have known that gallons of water can be sluiced through an opening in the abdominal walls, even when not rendered antiseptic, with no consequent harm, and would cease their opposition to a procedure which is thus experientially demonstrated to be the best surgical practice, based upon sound surgical principles. The instances might be multiplied almost indefinitely showing the existence of some general law or laws of pathology or therapeutics underlying affections of organs remotely connected and with functions entirely independent of each other. The ophthalmoscope is no longer an instrument forming a part of the armamentarium of the ophthalmologist alone, but is to be found in the hands of the neurologist and the general practitioner, to whom it renders incalculable service in revealing changes which throw a flood of light upon an obscure diagnosis affecting other organs.

The highest achievements are possible only by persistent and intelligently directed labor with one aim and in a single direction. It is only by the great skill which came from a long special practice and the accumulated experience of a number of men working to the same end, that abdominal surgery has made the progress it has within the last few years, or that ophthalmology thirty years ago shot like a brilliant meteor into the sky of medical science. If the operator of thirty years ago should arise from his grave and read in our journals that a surgeon had made 139 successive ovariectomies without a single death, he would indeed think that the age of miracles had returned. Specialties must *perforce* of their nature push themselves in advance of the general body, but after all, they are only the tentacles stretched out to take in from the surrounding pabulum of general knowledge, such nutriment as is necessary for the sustenance of the great whole, of which each one forms only a part, and on which it is dependent for its own vigor and life,

and cut off from which, it must languish and die. It is a fact so well known that its assertion is trite, that the thorough study of the affections of the spécial organs, now made possible by limitations of practice, has thrown a flood of light upon the pathology of other and distant organs apparently in no way connected, and not only that, but has added immensely to our therapeutic power and enabled us to treat successfully many afflictions which had hitherto baffled the skill of general practitioner.

Perhaps one of the best illustrative examples of this is the headache due to eye-strain. There is a certain kind of headache for which the physician for a long time could not account by any of the causes usually assigned for cephalalgia, and for which he could find no remedy. The connection of these headaches with the use of the eyes was hardly more than surmised, and if the eye affection and headache were regarded in the light of cause and effect, it was that the "neuralgia" was the cause of the ocular trouble. In many instances however, the pain in the head was not only not limited to the eyes, but was referred entirely to other branches of the fifth pain—often times to the occipital, thus making its connexion with the eyes unsuspected. As must necessarily often be the case in an in-exact science like medicine the effect was taken for the cause, and these patients suffered much at the hands of many physicians in their efforts to get relief, being dosed with iron, quinine, anodynes and various other drugs, until life became a burden too grievous to be borne. At length the studies of the optical apparatus of the eye, a knowledge of which, was made more general by the publication of Donder's classical work on refraction, revealed the fact that a correction of these optical errors by means of glasses in many cases, relieved at once, and as if by magic, these headaches, which were due entirely to the strain and the endeavor to overcome, by muscular and mental effort, the defect in the refracting apparatus. A further study, likewise revealed the fact that

other nervous affections were either caused or aggravated by these optical defects and their correction brought mitigation or relief to the symptoms. And so widely has a knowledge of these facts become diffused into general medicine, that now the well-informed physician is never satisfied in his diagnosis and treatment of a persistent headache until the eyes have been thoroughly examined and any error of refraction corrected by the proper glasses.

Many other examples could be cited showing the interlacing of the threads of general and special medicine, constituting the warp and woof of the whole garment of our science and art, but time forbids that we do it now, and in our future interviews we shall have occasion to note them, and to point out their significance and value.

And now, gentlemen, as we are beginning our studies together, at the very outset of our combined efforts to assort and arrange systematically the accumulated facts and observations of those who have labored before us, let us try to get a clear comprehension of the object of our studies, and as full an understanding as may be of the best means of accomplishing it, with credit to ourselves, honor to the profession for which you are candidates, and the greatest good to the community you propose to serve. No man must disparage himself with the thought that it makes no particular difference to the world as to what he shall do or how he shall do it; nor need he imagine that so long as the world gives him a living it is a matter of indifference as to what he shall give in return for it. The world requires, and has a right to demand from you the very best you are capable of, carried out in a manner productive of the greatest possible good. It has a right to demand this because the knowledge we have is the outcome of the labor of those men who have worked, not from a desire for present gain, but for the satisfaction of that higher and nobler impulse within, which urged them to do that which seemed to them most worthy of being done.

And it is but just that we should pay to the Future the debt we owe to the Past for the opportunities and privileges we now enjoy for the acquisition of knowledge, such as was never before known in the history of medicine. It now becomes our duty in turn to still further increase these opportunities and widen those fields by well and intelligently directed labor of our own, and we can do this best—aye, indeed only—by laying our foundations broad and firm, and upon the solid rock of well-established fundamental principles, and by a mastery of those laws which have been found most nearly universal in their application. A superstructure reared upon any less secure foundation is indeed a house built upon the sand.

This is not the time for you to decide whether you will become a specialist for this, or a specialist for that. Let not the brilliant success or the reputed large pecuniary gains of a few noted specialists lure you into the delusion that through that path lies the way to easy fame and fortune, nor do you allow yourself to adopt general practice and ignore the specialties because you deem the work more routine and less exacting than in some of the more advanced branches of the art. There is no field where all the faculties have fuller sway and where there is a greater demand for the exercise of sound judgment than in what is called general practice—the bone and sinew of the profession, the heart and lungs which furnish life to the body of medical art. Follow strictly and with a truly reverential spirit the scriptural injunction: “What thy hand findeth to do, do it with thy might,” and when the proper time shall come either an overpowering inclination or circumstance will lead you to the work which you are best fitted to do. In the meanwhile it should be your endeavor to obtain all possible knowledge of a general character, and your effort should be to know everything of something and something of everything. I do not mean that you should dissipate your energies in examining into the details and mi-

nutiæ of a variety of subjects. Quite the contrary; minutiæ and detail should be left, except in a few instances, to a later day, and I repeat again—and shall do so often and often, until the importance of the truth is forced to the fore-front of your attention and is ever present with you—that what you need first of all is what you can get now and what you will probably never get if you don't get it now—a thorough grounding in underlying principles—a knowledge of anatomy, physiology, pathology and the principles of therapeutics as a whole, and the modifications of these laws as applied to the ailments of particular organs, such as is the purpose of the course of special instruction which begins to-night, to give. Now is the time for you to dig out of the quarry of accumulated knowledge the foundation stones for that structure you are commencing to build for yourself, and which is to be the monument of your glory or your shame. These, gentlemen, are not simply words spoken in an introductory address for mere rhetorical effect, nor are they the words of a youthful enthusiast whose imagination carries him away from the realities of our environment into the misty realms of the ideal. They are of the eternal verities born of the long and painful travail of experience and if they are not impressed upon you now, their value in your lives will be less and less as time goes on, until finally, it will be too late.

We are all of us, teachers and pupils, laborers together in erecting the great temple of medicine, who must do their part towards the healing of the nations, not alone by the cure of disease, but, more important still, by its prevention, and in thus working our professional lives into the structure of this building, let us emulate the example of that marvellous and wonderful people, who hundreds of years ago wrought their originality and knowledge into forms of most exquisite and masterful symmetry, and left, in the Grecian architecture, models of grace and substantiality for all the coming time.

Let us not disregard the Divine law of proportion. Let us have each stone, of which we constitute the entity, to fit in harmoniously with each other, and the rest, allowing no part to stand out as an excrescence or deformity to mar the fair outlines, and whether we be foundation-stones or cap-stones, columns or capitals, cornices or caryatids, let us be content to know that though but a part, we are each an essential part, and that the beauty and splendor of the structure depends entirely upon whether we are in harmonious relation with the rest; and let it be our inspiration, as well as our compensation, to know that to each and every perfect part, belongs the glory of the Whole.

SYPHILITIC
PHTHISIS.

BY

W. B. MC'CLURE,

M. D.

JUNCTION CITY, KY.

Read to the Central Kentucky Medical Association, at Lexington,
April 18, 1888.

In using the term Syphilitic Phthisis, I do so advisedly, fully realizing that the nomenclature of our profession recognizes no such disease *per se*. But notwithstanding the fact that the disease of which we speak to-day is anony-

mous, yet it none the less surely exists. There is a condition of the lungs in which there is interstitial thickening, vascular consolidation, and liqui-faction or breaking down of the lung substance, which is of syphilitic origin and can not, without the aid of the microscope, be distinguished from tubercular phthisis. It is, therefore, not surprising that it has been so difficult to distinguish between the specific and the tubercular form of phthisis, and Goodhart goes so far as to say that there is no histological difference between syphilitic and tubercular phthisis, except that the former is more vascular than the latter. But the question—is there a peculiar microscopic anatomy or special symptom by the aid of which the cause, seat, and dissemination of pulmonary syphilis can be recognized? remains yet to be answered.

The chief argument in its favor is the relative frequency with which syphilitic poison produces consolidation, which in turn is followed by progressive liquifaction of the lung substance. Of course if the term phthisis is to be limited to tubercular lesions, only then, there can be no syphilitic phthisis; but if the term can be applied in its broader sense to progressive consolidation, followed by progressive softening with destruction of lung tissue and the development of cavities, then we think that we can prove the existence of syphilitic lesions in the lungs deserving the name phthisis.

The anatomical difference between the syphilitic and tubercular lesions in the lungs are as follows: In the former, there is syphilitic gummata, or vascular growths, in which the newly formed blood vessels have thickened walls which give rise to a gummy tumor. The neoplasms tend to progressively enlarge and form a distinct capsule while the center often degenerates and becomes caseous; while in the tubercular lesions, there are non-vascular nodules which do not grow beyond a certain size, and then undergo cheesy degeneration, becoming the seat of septic infection, break down and rapidly destroy the surrounding tissue. Thus we see that both varieties may undergo a cheesy change and liquifaction.

We are frequently at a loss to know to what extent our lesion is dependant upon syphilis or upon hereditary diathesis, aggravated by either acquired or hereditary syphilis. Very often the surface manifestations of syphilis are cured up, and after a few years our patient suddenly develops, what we believe to be too often diagnosed pulmonary phthisis, but which, if a post mortem examination of the lungs were made, would reveal the true cause, "Syphilitic Phthisis."

Just in this connection, I desire to speak of a case which recently came under my observation. Mr. B., age 30, presented himself at my office for treatment, with the following history: Says that five years ago

he developed consumption, has spent considerable time and money in travel without benefit, expectorates freely that heavy cheesy mass peculiar to phthisis, has heavy night sweats; has been under the care of a physician, who has given routine treatment commonly prescribed for consumptives, including cod liver oil and brandy. Upon examination I found all the physical signs commonly met with in a case of pulmonary phthisis. The skin was warm and moist, with little or no elevation of bodily temperature. Patient complained of headache, with wandering pains in the bones and tissues, with excessive tenderness on pressure over the region of the sternum. Upon closely inquiring into the patient's history says, that he acquired syphilis about four or five years previous to the development of the present trouble. With the physical signs, together with the patient's previous history before me, I concluded that I surely had a case of "Syphilitic Phthisis," and prescribed accordingly. Under the mixed treatment the night sweats ceased, the expectoration grew much less in quantity, and the cephalalgia, aches and periosteal tenderness all disappeared. Just here I will say, the absence of bodily temperature in these cases is almost pathognomonic of syphilitic tuberculosis. The early history of syphilitic phthisis is almost identical with that of tubercular phthisis. The patient complains of having had a heavy cold with incomplete recovery, followed by a dry hacking cough with a copious muco-purulent expectoration. In syphilitic phthisis early hemorrhages are frequent, while in the tubercular variety the hemorrhage comes on late in the disease. There is often great weakness while the general physique remains fairly good, in fact the emaciation is not at all in proportion to the weakness and nothing like that of the tubercular variety. In syphilitic phthisis the stomach remains strong, and with but little attention will digest well up to the last, while in tuberculosis the stomach is one of the first organs to rebel; were it

not for this fact many cases would terminate in recovery which now terminate fatally.

Dyspepsia and slight jaundice are not infrequent. The urine has a pale limpid appearance, which, together with the sallow complexion, leads one to suspect renal trouble. The dyspeptic symptoms and those of jaundice are usually due to similar vascular changes in the liver and a functional derangement of that organ, with a deficient amount of bile, which also accounts for the frequent constipations. Another very strong and pathognomonic is tenderness and oedema over the sternum and tibial crests. Pressure over that region produces a very peculiar pain which is quite intense and accompanied by a recoil, not easily forgotten when once recognized. There is no other disease in which this localized tenderness and odema of the pereostum is met with. It is never found accompanying a true case of milliary tuberculosis, but is exceedingly common in connection with syphilis, and it is found to always disappear under anti-syphilitic treatment. The conclusions may be summed up as follows: First—Pulmonary lesions, attributable to syphilis, are very common. Second—The lesion is most frequent at the apex and usually involves both lungs. Third—There is a strong resemblance, but a positive difference, between a syphilitic and a milliary tubercle, and finally the treatment must be anti-syphilitic to be of any avail.

PERSONAL.

Philadelphia Medical Times, May 1888.

Feeling the necessity of relief from duties that have been getting onerous, and in view of some special work which will engross much of his time, Dr. Woodbury has withdrawn from the management of this journal. Dr. Waugh has now the entire ownership and responsibility of conducting the *Times*, and will continue the energetic policy which has characterized it of late, and will strive to make it even more practical and useful to its readers than it is at present. Dr. Woodbury will still contribute editorially and otherwise to its pages, and will ever be warmly interested in its success.

GENERAL SURGERY.

STRANGULATED

HERNIA.

BY

JOSEPH PRICE,

M. D.

Physician to the Preston Retreat, Philadelphia.

Read to the Philadelphia County Medical Society, April 11, 1888.

CASE I.—Miss B., white, aged forty, single, a patient of Dr. Dundore, had had a reducible inguinal hernia of long standing and had never worn a truss. In May, 1887, it became irreducible, and the bowels were completely

occluded for three days. Well-directed efforts to reduce failing, Dr. Dundore decided upon operative interference, and invited me to see her. The usual symptoms of a strangulated hernia were present, the abdomen being greatly distended and tympanitic.

Upon incision the bowel was found to be firmly adherent to the sac, requiring considerable dissection to free it completely. After severing the stricture, the bowel was pulled out for a few inches, and found to be completely occluded by bands of inflammatory tissue, due to limited peritonitis at the point of stricture—the neck of the sac. These bands were broken up by fingers, forceps, and scissors, which restored the calibre of the bowel and it immediately collapsed. The bowel was very dark in color until released from these inflammatory bands, when its color changed rapidly, and I decided the circulation sufficiently good to restore it to the abdomen. The canal was closed by buried silk-worm gut sutures; the incision with silk. Dry dressing; recovery.

CASE II.—Miss K., white, aged, seventy-five years, never pregnant, a patient of Dr. F. X. Dercum, who called me in consultation March 1, 1888. Found the patient in bed and very feeble, with a history of complete occlusion of the bowel for twelve days, and stercoraceous vomiting for eight days. The abdomen was much distended and tympanitic. There was a tumor the

size of a hen's egg over the right femoral ring, which presented no fluctuation nor other symptoms of local trouble. There was also a tumor over the left femoral ring, the size of a goose egg, likewise presenting no symptoms of local trouble. The patient said the tumor on the left side had existed for eighteen years, while that on the right side was more recent, but also of several years standing. Taxis failing to accomplish any results, operation was suggested as the last result, and was performed the next day at the patient's request. As there were no symptoms specializing either ring as the site of the obstruction, and as the distention was so great that occlusion at some other point was feared, the incision was made in the median line. Examination now revealed that the tumor on the left side, was not a hernia, but either a hydrocele of the canal of Nuck, or an old hernial sac that had become cystic. The gut was incarcerated at the right femoral ring, and very firmly adherent. Fearful of tearing the intestine, I made another incision over the tumor, and was compelled to dissect the intestine from its sac. The intestine was then drawn through the median incision and carefully examined. It was found to be greatly congested, but speedily cleared, and was returned to the abdomen. The neck of the sac was twisted upon itself, and transfixed by deep buried sutures of silk, and stitched to the edges of the ring, the canal being closed by deep silk sutures. The median incision was closed with silk sutures. Dry dressings. The bowels moved spontaneously the same evening, and the patient recovered without a bad symptom. Stitches were removed the tenth day.

CASE III. *Operation for ventral hernia.*—(By Dr. Joseph Hoffman.) Mrs. M., aged fifty-eight, married at nineteen years, ten children, four miscarriages. She first noticed the rupture about fourteen years ago, when it was the size of a thimble. She in no way attributes the origin of the rupture

to child-bearing, which, since she is a large heavy woman, weighing about one hundred and ninety pounds, and having a great pendulous belly, would at first suggest the probable cause. The cause to which she attributes the hernia is rather a singular accident. Being, as has just before been stated, a large woman and her belly pendulous, when lying on her side, the abdominal walls lax and flaccid, lie loosely on the bed. One night while in this position, at the side of her husband, he turned in his sleep, and in so doing put his elbow directly upon her belly, forcing, as seems probable from her story, the two recti muscles apart. At any rate, from this time on she suffered discomfort, a burning sensation, and finally the hernia appeared. Her husband being a cripple, and a fruit dealer, she was accustomed to help him by carrying his baskets from the markets, by this means her trouble grew worse. Two or three years after its first appearance she was taken suddenly ill, her bowels refusing to move. Finally, after taking forty cents worth of castor oil, a movement was secured with great suffering. After this she had a second violent attack in about a year, and from this time on she has had attacks at intervals of about four months, till the time at which Dr. Price and myself operated on her, the last of August. During this period she was seen by six or eight physicians, most all of whom described her trouble as a "twisting of the guts," but operation was never suggested. Cathartics were administered to her each time she was attacked, no physician seeming to recognize the fact of their danger, one excepted, who also finally ordered them. At her first attack, it has been omitted to state, that she was given up to die. In all she had ten or twelve serious attacks. At her last seizure, in August, 1887, after efforts to secure two other physicians she came for me. I found the woman in extreme pain, she had not vomited. Examination was made and the hernia discovered above the umbilicus, about the

size of a pint tin-cup or larger, very tympanitic and hard. Application of hot poultices were ordered, and a hypodermic of one-half a grain of morphia given. The next morning she was much relieved, the tumor smaller, and altogether she was very comfortable, so much so, indeed, that I omitted my visit the day after. The next, the fourth day, I again visited her, and to my dismay found her vomiting stercora. This was all the more astonishing because I had not been informed of any change for the worse. I at once administered a second hypodermic of morphia, and went for the assistance of Dr. Joseph Price. After some delay I found him, and we operated at once. An incision was made about six inches long over the hernia. The integument was very thin, and extreme care was necessary to avoid cutting through the intestine. On getting through into the peritoneum, we found it so much thickened that it was impossible to distinguish between it and the gut. It was finally differentiated and carefully dissected free from the gut, to which it was closely adherent. The guts, too, in the sac were closely adherent, and separated with difficulty. The sac was tied off and removed. The distention of the bowel disappeared at once on its being freed. The strangulating portion of the sac was so firm as to resist all efforts to stretch, and only by the utmost care was the bowel released, grasped as it was, as if in a vise. About ten inches of the large intestine were found in the sac. This portion was very dark, but not gangrenous. After its release, the gut was carefully washed and returned. The incision was closed by deep and superficial sutures, all of silk. The catgut we happened to have was too slight to withstand the great strain put upon it by the enormous belly walls. Indeed, the silk was little better, for having been so long in antiseptic solution it had become rotten, and was thoroughly untrustworthy. I was unfortunate, too, in the breaking of the curved needles, which having been made

for the Hagedorn holder were not fitted for an ordinary instrument. The operation was, however, completed. The woman made a rapid recovery, and in three weeks was up, and stated herself to be more comfortable than she had been for fourteen years.

The incision did not suppurate worth the name, and closed promptly, though not smoothly.

Examination to-day, finds the patient entirely comfortable, though the recti have again separated. She wears both a band of rubber, adhesive plaster, and a muslin bandage. Is entirely well. Her belly bandage is fifty and one-half inches in circumference

DISCUSSION.

Dr. John H. Packard: The amount of material presented for discussion in the papers read is so large that it would be difficult to do it justice.

In connection with the cases of hernia reported he briefly mentioned another in, which an old femoral hernia was subjected to unjust suspicion. The patient, a woman, about fifty years of age, was brought to St. Joseph's Hospital with intestinal obstruction of four days' standing; her general condition was bad, and she had fecal vomiting. She had an old left femoral hernia, which had given trouble on several occasions, but had always been successfully reduced. This was cut down upon, and the sac found to be empty. Laparotomy was at once performed, a twist of the small intestine being found, and relieved, flatus was discharged per anum, and the intense congestion and distention of the bowel relieved so that the mass was easily returned. In spite of vigorous stimulation hypodermically and by the mouth, the patient sank, and died in about six hours. In this case, which will be elsewhere reported more in detail, an earlier operation would probably have had a different result.

As illustrating the difficulties attending the diagnosis of abdominal tumors, a case

may be mentioned which occurred at the Episcopal Hospital some years ago. A man was sent down from the medical to the surgical ward, to be operated on for an apparently movable tumor, situated on the left side of the belly two inches below the level of the umbilicus. It was found, however, that the mass was firmly adherent to the parietes, and the operation was abandoned. The man died a few months later, and an autopsy showed that the disease was epithelioma of the pylorus, which had in some way become displaced and fastened by peritoneal adhesions in its abnormal relation.

The seat of pain is very deceptive as an index of the actual lesions in these cases. A woman who was brought to the Pennsylvania Hospital in 1886, on account of a gunshot wound, complained of pain, in the right iliac region only, yet the ball had ranged upward from the left loin to near the right axilla, wounding the pleura, colon, stomach, liver, right internal mammary artery, and right breast.

Dr. Wm. Goodell: Some two years ago I operated, performing a double ovariectomy. The cysts were colloid, and there was no indication of malignancy. About a year afterward, the patient then being apparently well, fell in getting out of a carriage. There was pain, in her right side, considered by her attending physician, in the country, to be an attack of peritonitis. The pain afterward shifted to the left hip, growing worse and worse. She was brought to me again and I examined her with the utmost care, feeling sure, from the symptoms and from the emaciation that had occurred, that there was malignant disease. I thought that perhaps the stump of the ovary had taken on malignant degeneration. Finding nothing, I called in a distinguished specialist, who twice examined her under ether, but failed also to detect a cause for the pain. The actual cautery was applied along the course of the sciatic nerve, to which region the pain was referred. Death

took place in a few weeks, and at the autopsy, which was requested by the lady before her death, disseminated metastatic cancer of the liver was found. Clearly the ovarian disease had been malignant in the beginning, and was the focus from which sprang the hepatic disease. But the salient point here, is pain apparently in the sciatic nerve, while the site of disease was the liver.

A few words as to Dr. Barton's case of ruptured cyst. The patient died probably from acute septicæmia. I have seen so many cases of burst cyst recover, that I have ceased to regard the accident as dangerous, unless, the general health has deteriorated from chronic absorption of septic material. Of course this may occur. My last case failed to rally, and died on the seventh day from sheer exhaustion. The rupture had occurred some weeks before from a fall, and the vital powers were slowly impaired, as if by chronic poisoning. Here every abdominal organ was infected and she was greatly emaciated, and also bedridden.

On the other hand, I was surprised to-day by a visit from a patient upon whom I operated not quite two years ago. She had been tapped by a prominent physician in New York, who was unable to remove the fluid because it was colloid. A few weeks later I saw her. She was then very weak and emaciated, and confined to her room. At the operation, it was discovered that the cyst had ruptured and that every organ was either affected or infected with colloid. Even the skin and the abdominal wall were infiltrated with it where the trocar had entered. I thought she would recover from the operation, but expected death in a few weeks from progressive colloid infection. She was in blooming health when she called on me to-day, and had gained forty pounds.

With regard to the prognosis in these cases of burst colloid cysts, I hardly know what to say. I have seen cases remain

well as long as three and four years and then the disease returned in some other organ. On the other hand, I have had a fatal return in a few months' time. When we open an abdomen and find the whole peritoneum roughened with milliary prominences or with papillary excrescences, are we dealing with a benign or with a malign disease? This is the important question, for on it hinges the prognosis; yet I am unable to answer it.

The apparent improvement after exploratory laparotomy referred to this evening, especially in bleeding fibroids, I have met with several, and it is mentioned by others. I cannot explain it. Possibly the irritation from the operation causes uterine contraction, or sets up some change in the circulation.

I think that Dr. Barton removes his stitches too soon. I used to remove them in five or six days. But some years ago a wound, after ovariectomy, reopened and there was considerable oozing of serum. The patient recovered, however. I then allowed the stitches to remain seven full days. In a case of laparotomy in which I had removed the stitches on the eighth day, the patient who was doing well, got some hot tea into her windpipe on the tenth day, and in the paroxysm of coughing the wound reopened. I had much difficulty in returning the distended bowels, and she died in two or three days, apparently, from shock and not from inflammation. Two or three months ago I opened an abdomen to remove the ovaries for a fibroid, under a distinct promise not to touch the tumor. I could not get at the ovaries they were so imbedded in the tumor, and I accordingly closed the wound. On the ninth day the stitches were removed. A few days later, through some imprudence of the patient, the wound burst open to the whole of its length. My son closed it, and the woman barely escaped with her life. In such cases I shall in future leave the stitches in for at least two weeks.

A word as to the use of ether: I had nineteen cases of oöphorectomy last year, with one death. In that case the operation was very easy, yet suppression of urine followed and the patient died from uræmia, which I attributed to the ether. As symptoms of kidney disease were not manifest before the operation, I omitted to examine the urine. Yet serious renal lesions must have existed, but I cannot but think that her life would have been saved had chloroform been used as the anæsthetic.

I was interested in Dr. Keen's paper, for the case was my first one of oöphorectomy and the operation was performed *per vaginam*. The operation was not difficult, although the vagina was small. There were marked nervous symptoms after the operation, but no inflammation. The lady had been a patient of Dr. Weir Mitchell for rest cure. She had excessive abdominal pains, profuse menorrhagia, and metrorrhagia. Dr. Mitchell recognized a fibroid tumor and requested me to see the patient. The tumor was as large as an infant's head, and we decided to remove the ovaries. This was done on October 4th. On November 20th, the patient had been so much benefited that she walked two miles to church. She was in such a state of ecstasy over this that her mother feared she would lose her mind. After that, ill-defined pains returned and there was some bleeding from the vagina. On December 17th, I removed a painful neuroma of the cicatrix. The tumor was then reduced in size one-half. In March, 1878, the tumor had become so small that it gave inconvenience by coming down in the pelvis, bringing the womb with it, and I had to insert a pessary. On July 31st, of the same year, I found the tumor merely as large as a horse-chestnut and springing from the right side of the ante-flexed womb. In December, she complained of occlusion of the bowel and bleeding at stool, which I attributed to piles. In 1880, there was more or less pain in the left hypochondrium, with more or less nervous

phenomena. April, 1882, there had been two slight menstrual flows, with the usual molimina. Later on, violent and repeated hemorrhages from the bowel occurred, which were attributed by the patient to vicarious menstruation. For these hemorrhages I removed, in February, 1884, a large mass of piles, by ligation, and also stretched the sphincter ani for a fissure. Since then, I have not seen the patient.

It is interesting to note the rapid diminution of the large tumor. From the size of an infant's head it was reduced in nine months to that of a horse-chestnut. Neurosis was one of the marked features in this case. The patient is excitable, nervous, and of rare intelligence. When I recall the relief after the first operation, her extravagant delight at walking two miles to church, and the fear for her reason, I must confess that I look for a return of the pain once more, for I cannot see the relation between a uterine tumor and a pain complained of high up in the left hypochondrium. The patient was also highly susceptible to certain drugs, and the only anodyne I could employ was *cannabis indica* in small doses.

DR. M. PRICE: In many cases it will be found that the cause of strangulation of the bowel is adhesion of the small intestine and bands of inflammatory lymph. The pressure and irritation set up slight peritonitis, and finally adhesions. An early exploration will save life. Handling of the bowel and tearing the adhesions, or snipping them with scissors, will do no harm. Sometimes we cannot distinguish a mass of matted intestines from a tumor, as in the case of a little colored girl I opened the other day. By the time we had separated the adhesions and liberated the intestines there was no tumor. I think that, in many cases, a fatal result may be attributed to the opium treatment. If any one will employ Epsom salts immediately after the patient comes out from the ether, where he now

uses opium, he will never regret it. He will regret the use of opium.

As to removing stitches, if we use silk-worm gut, we need not give ourselves any concern. They may be left indefinitely, if we choose. They will bear a strain of fifty or sixty pounds, and give no inconvenience of any kind.

DR. JOHN B. ROBERTS: The case of Dr. White renders it appropriate to refer at this time to the historic case of Dr. Levis, known as the "ethyl bromide death," which led to the abandonment of that anæsthetic. The patient was placed under the anæsthetic for lateral lithotomy, for there were but three or four of us at that time in favor of the suprapubic operation. The skin was incised, but before anything more could be done the patient died. A larger, irregular stone, but smaller than is exhibited by Dr. White, was found wedged into the neck of the bladder. The kidney was not markedly diseased, as in Dr. White's case, but there was organic disease of it and of other organs. That death was as independent of operation, and may have been as independent of anæsthetic as was that of Dr. White's patient. I think Dr. White is truly to be congratulated that he had not fixed the day of operation twenty-four hours earlier.

There is another point of interest in both these cases. Such stones can much better be removed by suprapubic operation than any of the perineal operations.

DR. H. A. KELLY: I had a case of referred pain due to the presence of fibroid tumors similar to that reported by Dr. Keen. There was much emaciation, constant cough, and a pulse of 120. She coughed whenever I touched the tumor. I performed hysterectomy, removing with great difficulty a mass of tumors, amidst which it was impossible to distinguish the uterus. The stump could not be brought up, and was treated intra-peritoneally. Cough has stopped, weight increased twenty pounds, pain is gone, and the patient is in the best of health and spirits.

The indications for the treatment of the various kinds and conditions of hernia are so different that it is difficult to discuss them together.

In one case, which I watched for a number of years through many attacks, I finally made an autopsy. The patient was very fat, and the intestines protruded in a large mass, which could never have been returned to the abdomen, which had so long been accustomed to their absence. The only operation possible would have been splitting the ring to relieve the tension. In this sac I found the colon and the vermiform appendix with small intestine.

I was called last fall to a case of strangulated umbilical hernia, and finding the patient collapsed, and no time to be lost, instructed the husband to give chloroform while I operated with my pocket-case instruments. For suture I employed some embroidery silk lying on the table, with which she had been making doilies. After releasing the intestines, I split the ring and brought together the opposite side, thus obliterating the sac, and curing the hernia permanently. The patient has remained well since.

The stretching of the scar in the so-called ventral hernia after laparotomy is not a true hernia, and not liable to its dangers.

Three weeks ago I saw a man who had developed typhoid symptoms followed by rupture and escape of fecal matter from the scrotum, due to the strangulation of an old incarcerated hernia of twenty-five years' standing, caused by jumping down a cliff in the Fort Pillow massacre. The hernia was formed by a diverticulum from the bowel, and the whole mass, with the adherent sac, was one gangrenous mass, which was removed in shreds, leaving a large opening in the bowel. I had no good available tissue to close this, and used his right testicle, which I fitted into the opening, and secured by a row of stitches around its circumference, being careful not to allow any

stitch to penetrate the substance of the testicle. This has healed perfectly *in situ*, and the bowels have moved naturally and regularly. Some years ago Dr. Hunter reported a case to this Society, in which a man repeatedly pulled his testicle up to support an inguinal hernia, when to his surprise one day it stayed there, and finally became adherent, curing the hernia.

DR. KEEN: I think the difference of locality between lesion and pain, referred to so much this evening, will probably explain the pain in my case. I would like to ask Dr. Goodell which of the tumors in the specimen he would consider the original one?

DR. GOODELL: The intra-mural one. The great diminution would hardly have occurred otherwise.

DR. KEEN: A point elicited in our papers; and discussion this evening is the reciprocal invasion of gynecological surgery by the general surgeon, and general surgery by the gynecologist. Nothing but good can come from this. It will be mutually advantageous.

DR. BARTON: I must bow to Dr. Goodell's authority in the matter of removal of stitches; and yet my own tendency, growing out of experience, is to take them out earlier and earlier. I think that by this I avoid suppuration. There is a difference between the lax abdominal wall after the removal of a thirty or forty pound tumor, and the tense condition of that wall after operations of the class I have been most engaged in. In these the great tension often causes suppuration if they are permitted to remain long. In order to afford support after removal of stitches, I have been in the habit of taking two large pieces of adhesive plaster, and cutting a series of tails upon each and fastening one piece on each side of the abdominal incision. These plasters are long enough nearly to reach the spine on each side, they are laced in front with heavy thread, and are tightened as necessary by taking up the slack in the thread.

STRANGULATED HERNIA.

BY

W. C. WEBB,

M. D.

Bryantsville, Ky.

Read to the Central Kentucky Medical Association,
at Lexington, April 18, 1888.

Since this disease is so frequently met with and also demands such prompt treatment it behooves us to have clear and distinct ideas of a proper plan of procedure, I am fully

cognizant of the fact that every case is a law unto itself.

While I have nothing new to add, but to recount the struggles of physicians in this field, yet my experience in this direction has taught me some useful but sad lessons. When strangulated hernia of any form presents itself, there is but one plain path to follow, which, proving to be a failure, then your subsequent plan of treatment is self-evident. While having carried out the first, if needs be, will be of marked assistance to you in the latter, place your patient comfortably in bed, then give hypodermically morphia and atropine until you produce pretty deep narcosis, when you will find the tumor to be softening, the spasm relaxing, and gradually gliding back into the abdominal cavity without a touch even being made in the direction of taxis. I wish to lay marked stress upon the latter. While heretofore I have had no little vanity, much eclat even from the bystanders, in my supposed dexterity of manipulations, my experience has truly taught me that it was not my dexterity but the relaxing influence of the narcotic. But behind this there is a sadder lesson still. Had not taxis been resorted to, those irreparable lesions would not have been done to the almost gangrenous intestines, otherwise the vital force would have been entirely adequate to the test of restoring the almost incarcerated intestine, in virtue of which, keep your fingers absolutely from the tumor in way of taxis; in the meanwhile you might use a large enema of flaxseed water to wash out the lower bowel. After having waited a sufficient length of time and no perceptible change

is found to be taking place in the tumor, your procedure will then be of a two-fold nature—to relieve the strangulation, and ultimately to produce a radical cure. Keep ever before you the fact that every case is a law unto itself; and further, in every step let sound judgment and discretion mark your course. The clinical requirements in these operations are: A safe and satisfactory disposal of the protruding intestine and sac; and second, a total obliteration of the hernial rings and an accurate coaptation of the sides of the canal. If there is irreparable damage done to the intestines, you will either make an exsection or an artificial anus; otherwise, in cases of deep congestion, a serious perplexity often arises as to how far the vitality of the intestine is consistent with change of color, drying of the secretions, emphysematous crackling and fecal odor. I have seen some intestines apparently hopeless, returned to the abdomen with the desired results. I don't know that we are justified in returning strangulated intestine until it gives some evidence of returning vitality. It is perfectly feasible to keep it enveloped in moist cloths and rubber tissue for several hours which will materially aid you in coming to a decision. We may resort to one of several procedures in dealing with the sac. If the hernia is recent, about the best plan is to reduce the sac to the abdominal cavity. If the adhesions are so great as to prevent its safe return, leave the sac in the canal, and firmly approximate the superficial tissues and skin over it. The sac may be ligatured, the hernial investment cut off, and the stump either returned or invaginated in the canal, or the sac may be puckered up by running a ligature through it longitudinally, and fixed as a bulwark against the internal ring. Most every surgeon will make one of the above procedures more or less modified to suit his individual taste; likewise, in the obliteration of the canal, a variety of procedures have each had their enthusiastic advocates. To insure absolute coaptation

the needles must be pushed deeply, and firm pressure is often required. After the canal has been satisfactorily closed an independent set of sutures should be passed through the integument.

What kind of a truss, or should any be worn after an operation? I should think that the best appliance was not one which made pressure direct over the ring, but one which corrected this abdominal outline and changes the direction of the thrust of the intestines from one at right angles to the plane of the hernial opening to one parallel to its plane. Some such abdominal supporter as women wear would answer the purpose; and, further, it would materially add to the chances of the permanent success after such operations for the cure of hernia.

MITCHELL
DISTRICT
MEDICAL
SOCIETY.

In an official circular issued by Dr. M. F. Gerrish, of Seymour, it is announced that the O. & M. Railway

Co. will sell round trip tickets for one full fare, whilst the L., N. A. & C. will return those who pay full fare going, for one-third fare, on presentation of the secretary's certificate.

Those who cannot get round trip tickets should take the agents certificate of having paid full fare going. This arrangement will be necessary only to secure reduced rates to those returning. What with the new hotel and greatly improved condition of the grounds seem lacking, may be compensated for by the extremely low rate of fare of one dollar per diem from the 20th to the 25th of June.

This is one of the best working societies in the Mississippi Valley, and the meeting at French Lick, it is predicted, will be the largest ever held by this body. For two years past PROGRESS has published the semi-annual proceedings of this society. The papers have been immensely popular, and the discussions copied and favorably commented upon in the best journals of the country.

EYE, EAR AND THROAT.

OTITIS MEDIA
PURULENTA.

BY

LAURENCE TURNBULL,
M. D.

Read to the Philadelphia
County Medical Society
Stated Meeting of
April 25, 1888.

The cavity of the tympanum, or middle ear, in health is filled with ever-renewed air by the Eustachian tube, and thus the waves of sound reach the labyrinthine nerve of the ear. It is deeply and securely situ-

ated in the temporal bone. It measures two lines from the membrana tympani inward; its breadth and height being about half an inch, and its shape is the form of a cube. The cavity of the tympanum is apparently lined with a continuation of the mucous membrane of the Eustachian tube, and yet the epithelium is distinct,—that of the Eustachian tube is ciliated, whilst in the middle ear it is tessellated, or in squares. This epithelial and subepithelial lining takes the place of a periosteum by transmitting the bloodvessels which supply the bones. This latter fact is important to notice, as any serious affection of this membrane will ultimately react upon the nutrition of the bones forming the cavity, thus revolving a severe catarrh into an otitis. The existence of this mucous cushion is the reason why affections of the middle ear are so numerous in young children. The close contact of the jugular vein to the cavity of the tympanum exposes it to the influence of pus collecting on its floor.¹

In acute otitis media, or inflammation of the middle ear, there are frequently but slight pathological changes in the ear, except swelling, deep redness, and small perforations of the membrana tympani. The discharge is either mucus, or mucus and pus. This can be shown by the pus dissolving in water, and the mucus found floating on the top.

¹ Extract from the author's Clinical Manual of the Diseases of the Ear, 1871 and 1878. Phila.: J. B. Lippincott Company.

By the use of anodynes, cocaine, chloroform, morphia, etc., pain is relieved; with the internal use of tincture of aconite, antipyrin, frequent hot foot-baths, with local depletion, inflammation is checked. The parts should be cleansed with a mild, warm, antiseptic wash, and, as a rule, all goes well. The case generally recovers in a short time, without any permanent injury to the hearing apparatus, if not neglected. You, medical gentlemen, are all familiar with this disease in young persons, and children, the latter having as many as two, three, and even four, acute attacks during teething, or the result of the exanthemata or cold. This disease is now so well known, and, as a rule, so promptly treated, that a much smaller number of cases are now permitted to pass to the second stage of inflammation of the middle ear—the purulent variety—which causes such extensive changes in the hearing apparatus. In such cases of acute otitis media Zaufal finds exclusively the two forms of microbes found by Friedländer and Eränkel in pneumonia, viz., a large, short bacillus, encapsulated, and a diplococcus, also encapsulated. He has also shown that the exudation in acute otitis media, before rupture of the membrana tympani, contains pneumococci to the exclusion of all other microorganisms, and that these introduced into the nasal fossæ can give rise to a meningitis without irruption of the cranial envelope.¹

In collecting a large number of cases of suppuration of the middle ear which includes three or four years, I find that, out of 1700, 454 were acute, while 1246 were chronic; 18 had facial paralysis, while the balance included polypi, caries, necroses, cholesteatomata, and tubercles. Let me dwell, for a short time, upon some of these changes, the most important and extensive of which are found, not in the meatus or that portion of the ear covered by skin, but in the mucous membrane of the middle ear, back of the membrana tympani, extending

into the mastoid cells, and through the Eustachian tube to the throat and nose. After this disease has existed for some time, there is an increase of the bulk of the mucous membrane, caused by excessive infiltration with round cells, and enlargement, with new formation of vessels.

The subepithelial layer, stripped of its epithelium, is replaced by round cells; a suppurating, granulating surface, traversed by many vessels takes its place. The purulent process leads to destruction of the tissues, to ulceration and wasting of the mucous membrane, which is eaten away so that the bone is often laid bare.

This is especially the case in tubercular otitis media, purulenta, and has been demonstrated by numerous post-mortems, that they tend in a very short time (six to eight months) to extensive necrosis of those parts bordering on the diseased middle ear, and extending into the labyrinth, the rapid course of the disease being due to the existing tubercular diathesis.

It is also often the case in this form of the ear, that tinnitus and impairment of hearing precede the perforation, which is most generally painless, but with rapid destruction of the drum-head. By the transformation of the round cells into spindle-shaped, there occurs a formation of firm connective tissue, which leads to abnormal adhesions between the membrana tympani, the ossicula, and the walls of the tympanic cavity, producing permanent deafness. The membrana tympani almost always suffers a loss of its structure, and in severe and protracted cases we have large perforations.

Treatment.—These perforations are most ordinarily treated by a combination of alteratives, so as to modify the nutrition and prevent the destructive tendency from gaining headway. The local application also is of importance, especially such remedies or local means as change the surface of the granulations, gently stimulate and cleanse them. No agent in our hands has acted so

¹ Annales des Maladies de l'Oreille, January, 1888.

promptly and well as very finely *levigatéd* boric acid, alone or in combination with iodol, the latter to act as a true antiseptic, using one part of the iodol to ten of boric acid. Boric acid used alone should be sterilized, by heating before using on a platina foil, as it contains fungi and bacteria when kept for some time. The powder must be carried down to the perforation, and through it as much as possible, so as to reach the diseased mucous membrane and the Eustachian tube with the little instrument I show you. If it is blown in, it adheres to the edges of the auditory meatus, causing irritation, and sometimes small abscesses. This powder has a stimulating and an astringent effect just as alum used in the same manner. It should be packed carefully, so that the diseased membrane be fully covered. It is not necessary to seal it; indeed, it is almost impossible to cause the retention of the pus in the cavity, as the powder absorbs it, and the former when applied produces a watery discharge by its stimulating effect, so that the patient will be obliged to wipe off the liquid.

As to boric acid causing retention of the secretion in the treatment of necrosis of the temporal bone, or in a large perforation, it has not acted so with me. I have used boric acid since 1881, after my return from Europe, and, like its introducer, Friedrich Bezold, of Munich, I have been convinced of its efficacy in these severe cases, and that the objection to its use—*i. e.*, its causing retention of the secretions—as advocated by some, are entirely without foundation. According to his and my own experience, extending over a period of seven or eight years, its use has always been followed by favorable results so *he* had no reason to modify his statements made in 1970,¹ as to its therapeutic value. He has also confirmed his opinion of the unreasonableness of these objections by a series of physiological experiments, in which he tested the

capacity of absorption of powdered boric acid for fluids outside of the body, before, as well as after, saturation and drying out of the powder with purulent secretion, which, enclosed in a glass tube covered with a perforated membrane, was exposed to the influence of fluids from the ear.

This special mode of treatment is peculiarly applicable to large perforations of the *membrana tympani*; when the perforations are small, they are more effectually treated by a solution of boro-glyceride, carbolic acid, or peroxide of hydrogen.

When the perforation is situated in the *membrana flaccida* or Shrapnell's membrane, with disease of the attic of the tympanic cavity, we resort to a syringe (intertympanic), or a catheter to which a soft rubber ball with a double valve is attached, to withdraw the fluid, and not let it return when diseased; either of which is inserted into the perforation, and the parts washed with a solution of peroxide of hydrogen or an antiseptic. If carious bone be found, covered with polypi, the latter should be snared, and the dead bone removed; but if the bone be found only inflamed, it should be treated by diluted nitric or carbolic acid, to stimulate the granulations and restore it to its normal condition. All tearing and cutting operations—as these tend to malignant disease—must be avoided; everything should be done with extreme care and gentleness. When pus blocks the *tympanum* in disease of the middle ear the tuning-fork is heard better through the air than through the bone. But when the pus is removed, and the inflammation is reduced, the bone conduction will again improve, as the pressure has been removed from the labyrinth.

It has been found that functional disturbances in hearing are produced by chronic purulent inflammation, by the cicatrices and changes in the *membrana tympani*, and adhesions before referred to in the middle ear, after all discharge has ceased. First, the alterations in tension of the sound-

¹ Arch. für Ohrenheilkunde, Band xv., and in the *Ärztliches Intelligenzblatt*, 1881, No. 26.

conducting apparatus, caused by the cicatrices producing irregular vibrations in the membrana tympani. Second, cicatrices which cause adhesions of the membrana tympani with the promontory, and the articulation of the incus with the stapes, impeding the power of vibration of the ossicula. Third, if the adhesions are confined to the portion of the membrana tympani situated below the handle of the malleus, the acuteness of hearing has been found to be considerable, while adhesions in the upper half of the membrane produce more disturbance of the hearing, or deafness, especially when the handle of the malleus is drawn inward and ankylosed with the promontory. Fourth, it has been proved that imperfect hearing power may exist even in cases of extensive destruction of the membrana tympani, and with the loss of all the bones, except the foot-plate of the stapes—that is, if it were movable, and the membrane of the fenestra rotunda was not thickened. The regularity of our perception of tones is due to the deadening of the sounds produced by the ossicles, the membrana tympani can only be properly considered as a sound conductor in connection with the ossicles. Even if fair hearing of speech and music remain, the removal of the membrana tympani, or protecting membrane of the tympanic cavity, is dangerous to life, for it is deprived of a covering which is essential to its continuation in health. To retain and to restore to a healthy condition the diseased and ulcerated bones of the ear and the membrana tympani, is of the utmost importance.

Extension of this chronic purulent disease of the ear by the Eustachian tube as a pus-carrier, produces disease of the upper part of the nasal cavity, by developing polypi, enlarging the pharyngeal tonsils, adenoid growths, and hypertrophic enlargements of the turbinated bones and ozæna.

We fully agree with Politzer, that combinations of ozæna with disease of the ear are much rarer than we would suppose, from the extension of the process toward the

entrance of the Eustachian tube. Where the ear is implicated, the mucous membrane of the middle ear becomes most frequently sclerosed. In many cases of deviations of the septum we have found perfect hearing, unless complicated with prior ear disease, or exostitis extending through the whole line of the meatus; these are removed by the dental engine. Such cases suffer from coryza or cold in the head, commonly so called, but are promptly relieved by a four per cent. solution of cocaine. There are also many cases of anterior nasal polypus which do not produce deafness.

One of the chief causes of deafness is the extension of the pharyngeal tonsil into the tuberosity of the Eustachian tube, and even into its osteum. In the so-called ethmoiditis of "Woakes" there is not necessarily any casual connection between the ear and these affections; in many cases the nasal trouble has long existed without involving the ear. If the ethmoid cells become diseased, or necrosed near the Eustachian tube, then we may have paresis of the palate attended with a distressing form of tinnitus, as in one case under our care, there was perforation of the membrana tympani from extension of the irritation through the Eustachian tube. In this case the patient recovered under local and constitutional trouble. The removal of the diseased spicula of bone, or hypertrophied tumors from posterior portions of the turbinated bones, improves the deafness of cases of long standing, when attended with retraction of the membrana tympani, the results of naso-pharyngeal disease. There is an absolute necessity that the pressure of the air—which is fourteen pounds to the square inch—should be equal on both sides of the membrana tympani, and all obstructions to this must be removed to attain perfect hearing. It is of importance that our patients, convalescent from chronic purulent ear disease, should breathe through the nose, and be able to shut the mouth, especially when sleeping, to prevent the drying effects on the throat and Eusta-

chian tube. This is accomplished by a mouth-band, tied behind the ear, as recommended by Delstanche, in the case of children, after the removal of the cause. The proper treatment of the naso-pharyngeal disease should always precede this, in order to see that nothing obstructs the respiration, and to watch the controverting effects of all operations by the use of nasal tents of laminaria, or those of platinum, or glass covered by soft rubber, and thus keep up nasal intubation.

DISCUSSION.

DR. RANDALL: I have been surprised to hear absolutely no mention in the paper of inflation through the Eustachian tube, so extremely valuable an aid in cleansing, blowing out discharges from the tympanic cavity, and aiding greatly in preventing hurtful adhesions which may interfere with the function of the organ. Inflation by the method of Politzer, or of the catheter, or even of Valsalva, will often be followed by immediate and marked improvement; and will advance the restoration of function.

Dr. Turnbull seems to think that where naso-pharyngeal trouble coexists with ear disease, it is secondary; and is due to the escape of pus from the middle ear into the throat. Most pathologists are inclined to take an opposite view; and, so far as my own experience goes, the trouble in the respiratory passages has been generally of older date. Its nature, in most cases (*e. g.*, deviation of the septum), as well as the history, excludes the possibility of its being secondary to ear disease, or of the latter having had any causal influence; and I have seen cases where long-continued discharge of fetid pus through the Eustachian tube, though very nauseating to the patient had little effect on the naso-pharynx. Further, as pointing to a causation in the opposite direction, is the fact that where there is unilateral aural trouble, the side affected is that of the more obstructed nasal chamber. With the general plan of treat-

ment, as advanced by the lecturer, we can all agree. I should, however, once more lay more stress on inflation, so often neglected by the general practitioner, and yet so valuable a measure. Cleanliness is all important. The general practitioner will use the syringe, which is good; but not so good, perhaps, as the dry treatment. It permits of the thorough cleansing required, with less danger of damage in unskilled hands, than if absorbent cotton alone is used; it can be repeated as often during the day as the quantity of the discharge may demand; and if the ear is thoroughly dried after it, inflation being practiced to remove all fluid from the tympanum, and the boric powder blown in, the treatment leaves little to be desired. I prefer insufflation, in using the boric powder, to the method described by Dr. Turnbull. It is so much more easily done, and can be practiced by the patient himself after cleansing by means of a quill or other little tube connected with a mouth-piece. I fully concur with Dr. Turnbull that there is not much danger of obstruction if the packing be properly done; but I must protest against the "ramming home" sometimes done. I have never seen any trouble at the external orifice of the meatus from the insufflation; on the contrary, the powder tends to allay any inflammation of the meatus; nor have I had the experience referred to, of all the powder blowing back into my face. Inflation, of course, is a measure to be practiced with care; I would not often entrust a Politzer bag to a patient; but insufflation is a very simple procedure, and may be left to the patient with entire safety.

DR. SEISS: As a rule, children who breathe through the mouth do so because the nose is so much obstructed that they cannot get sufficient air through it. The forcible occlusion of the mouth by this pad or any other device might, under some circumstances, be very disastrous.

DR. TURNBULL: Dr. Randall is perfectly right in assigning a high value to inflation

as a means of treatment in suitable cases, principally of dry catarrh. It often proves very dangerous in unskilled hands, not only on account of its effects on circulation or the local effect of an excessive pressure, but also the blowing back of purulent secretions from the nose into the pharynx might do much mischief. Before practicing inflation cleanse the nose thoroughly. Teach your patients, especially children, to keep the nose clean. Many children do not know how to blow the nose. Teach them that and it will help to a cure. The discharge of purulent matters from the ear into the pharynx, setting up secondary troubles, is not a matter of theory with me, but is the result of experience. A very distressing case of bilateral perforation came under my notice in which hæmoptysis and gastric hemorrhage had been diagnosticated from the vomiting of bloody discharges, which had been swallowed. At the post-mortem examination the stomach contained a pint of putrid and bloody matter.

I do not approve of syringing, as a rule, and it should never be done except by the physician. In the first place, a syringe is a rarity, and an expensive rarity. Even if the instrument is good, in improper hands it may tear the membrane. I have seen such accidents.

DISTINCT AND INDISTINCT VISION.

BY

JAMES JURIN,
LONDON.

An appendix to "a complete system of opticks,"
by Robert Smith,
L.L. D., Professor of

Astronomy and Experimental Philosophy, at
Cambridge, and
Master of
Mechanicks to his
MAJESTY,
Cambridge, 1738.

Continued from *May*
Progress, Page 507.

70. If a rectangular object be viewed at a distance proper for *Perfect Vision*, its picture upon the *Retina* will be rectangular (I mean as far as the spherical figure of the *Retina* will admit) and will be proportional to the angle which the object subtends at the eye; its limbs will be well defined, and all parts of the rectangular

the idea thereby excited in the mind will be equally strong in all parts, and well defined.

71. If the same rectangular object be viewed at a distance much too small, or much too great for *Perfect Vision*, its picture upon the *Retina* will still be rectangular: but the length and breadth will be greater than in proportion to the angles subtended at the eye by the length and breadth of the object. Nor will the picture be equally strong in all its parts, but the middle part will be the strongest, and will be surrounded with a *penumbra* growing gradually fainter towards the outside, whereby the limb will appear indistinct and ill-defined; consequently, the idea thereby excited in the mind will be that of a rectangle too large and too faint and indistinct towards the limb. That is, instead of the appearance *A*, Fig. 30, it will have the appearance *B*, or *C*, or *D*.

For let the rectangle *ABDC*, Fig. 31, represent that rectangular space upon the *Retina*, which the image of the object would take up if that image were distinct: Or which comes to the same thing, let *ABDC* represent that rectangular space upon the *Retina*, which is occupied by the centers of all the pencils of rays belonging to the indistinct image of the rectangular object. This rectangle *ABDC* we shall call the *true image* of the object. Also, let the circle *fgh e*, having its center *e* in the perimeter of the rectangle *ABDC*, represent that circular space upon the *Retina*, which is taken up by one of the extreme pencils of rays issuing from the object, that is, let the circle *fgh e* be the *circle of dissipation*, and its radius *ef* the *radius of dissipation*. Then draw the line *bd* parallel to *BD*, touching the *circle of dissipation fgh e* in the point *f* within the rectangle, and complete the rectangle *abcd* having its sides parallel to those of the rectangle *ABDC*, and everywhere distant from them by the *radius of dissipation ef*.

72. Then I say 1, That part of the rectangular object, which is represented by the

picture will be equally strong; consequently

rectangle $abcd$, will be equally strong in all parts, and will be of the same strength, as if the image of the object had been perfectly distinct.

To prove this let the rectangles $ABDC$, $abcd$, Fig. 32, represent the same things as before, and taking any point at pleasure, as e , within the rectangle $abcd$, from that point as a center, with the *radius of dissipation* ef , draw the *circle of dissipation* $efgh$.

Then it is plain that the point e must receive light from every point of the circle $efgh$, into which it scatters its own light, and consequently must receive back the same quantity of light as it loses by dissipation. It must therefore be as strongly illuminated as if there had been no dissipation of light, but the image had been perfectly distinct; and as this is true of every point in the rectangle $abcd$, that whole rectangle must be as strongly illuminated as if the image had been perfectly distinct, and must be equally strong in all parts. This rectangle $abcd$, we call the *false image*.

73. I say, 2. The rectangular area, or border $ABDCcabd$, comprehended between the perimeters of these two rectangles, will not be so strongly illuminated as the *false image* $abcd$, and will grow gradually weaker towards its outer extremity.

For let the rectangles $ABDC$, $abcd$, Fig. 33, represent the same things as before, and taking two points in the rectangular area $ABDCcabd$, one more inward as e , and the other more outward as m , from the centers e and m , with the radii ef mn , each equal to the *radius of dissipation*, draw the two circles $efgh$, mno , cutting the lines AC , BD , in the points h and f , n and o respectively.

Then it is manifest that the points e and m will receive light not from the whole circles of which they are the centers, but only from the segments hgf , npo respectively. Therefore each of these points will be less luminous than any point of the rectangle $abcd$. But also the segment hgf , which throws light upon the more inward point e ,

is larger than the segment npo which throws light upon the more outward point m . Therefore the more inward point e will be more strongly illuminated than the more outward point m , or the rectangular area $ABDCcabd$ will decrease gradually in light towards the outer extremity.

74. I say, 3. Besides the rectangular area last described, which is darker than the *false image* $abcd$, there will appear another rectangular area, situated without the *true image*, or rectangle $ABDC$, which is darker than the former, and whose light does also diminish gradually towards the outside, till it wholly disappear and vanish.

For let the rectangle $ABDC$, Fig. 34, again represent the *true image*, the rectangle $abcd$ the *false image*, and $efgh$ the *circle of dissipation*, having its center e in BD one of the sides of the *true image*. Then parallel to BD draw the line GF touching the circle $efgh$ in its outer point f , and complete the rectangle $ABDC$ by the *radius of dissipation* ef .

Then between the two perimeters $ABDC$ and $GFHI$, will be comprehended a new rectangular area, which will receive light from the pencils whose centers are situated in the former rectangular area $ABDCcabd$; but it will be darker than the former, and its light will gradually diminish towards the outer edge till it entirely disappears and vanishes. This is manifest from the inspection of the figure, where the light received by the point e situated in the inner edge of this area is measured by the segment or semicircle hg , and the light received by the point m situated near the outer edge is measured by the smaller segment no .

75. From what has been said, Art. 71, 72, 73, 74, and from consideration of Fig. 31, 32, 33, 34, it is plain that the rectangle $abcd$, or the *false image*, is the only part that has its full quantity of light, and that the two rectangular area's $abcd$ $CABD$, and $ABDCHIGF$, do both decrease in light just after the same manner from $abcd$ to $IGHF$. (TO BE CONTINUED.)

OBSTETRICS AND GYNÆCOLOGY.

CONCEALED
ACCIDENTAL
UTERO-PLACENTAL
HEMORRHAGE.

BY

J. H. O'REILLY,

M. D.,

Louisville, Ky.

Utero-placental hemorrhage embraces generically multifarious bleedings, all worthy of interest. Herein, however, consideration is extended to only the concealed accidental variety.

The involved tissue lesion with its pathogenesis requires but short elucidation. Disrupted vessels between uterus and placenta permit outpouring of foetal and maternal blood, which finds no vent per vaginam. Abundant concealed internal bleeding may sometimes precede a visible bloodloss, otherwise void of significance. Exertion, traumatism and powerful contraction of the womb are ascribed as proximate causes; local disease and vices constitutional being reputed predispositional.

Regard is solicited to the treatment of this hemorrhage, as observed before or early during labor between the seventh month and full period of pregnancy.

CASE NOTES.—Mrs. M., aged thirty-nine years, mother of eight children, prematurely delivered in March, 1887. Lifted carpet at seven and a half months of succeeding pregnancy and immediately aroused the pains of labor. This was in April, 1888. Visit 11 P. M.—Os undilated and an inch of intra-vaginal cervix. No sign of bleeding. Frequent and distressing contractions. Suggested composure, recumbency and ventilation and administered laudanum with prunus virginianus. Pains subdued and patient comfortable at midnight. Summoned 5 A. M.—Contractions renewed. Cervical length undiminished, os hardly admitting index finger. Vomiting followed by complaint of weakness. Foot of bed elevated, mustard applied over stomach. Coffee and Valentine's meat juice given. Patient revived. At six o'clock vomiting recurred, followed by re-

newed depression. Whisky and milk caused further emesis. Membranes ruptured. Symptoms alarming, waxy pallor, sighs and gasps, thirst, suffocation, syncope and suspended pulse. Uterine contour smooth and oval. No external bleeding, no foetal recession.

Diagnosed, accidental hemorrhage. Compress applied over womb, ergotin, digitalis and ammonia hypodermically; hot water jugs to extremities and spine, and body enveloped in dry warm blankets. Dr. Walker arriving sanctioned and advised continuance of instituted proceedings. Reaction occurred to the extent of small pulse, sensibility to irritants and courageous recognition of disaster.

Os still thick—a silver quarter would quite have covered the area of dilatation. Blood in scant measure appeared exteriorly. Dr. Walker and I prepared for transfusion, the patient meanwhile under trusty surveillance. We left the room momentarily. Soon I was recalled; Mrs. M. had expired. At once I resorted to cesarian-section. A massive clot half detached the placenta and occupied the right side of the uterus. It was six inches in width and fully three inches in thickness. A foetus was removed dead and exsanguinous.

Neither result nor retrospect of the accouchment brought satisfaction. Compresses, hypodermics and other remedial agents of the orthodox alignment had proved futile. The membranes had ruptured, but the viscus retaining a child and detached placenta could not possibly so contract as to arrest the bleeding. There was a thick cervix and an os but slightly dilated. Playfair, referring to version as a means of emptying the uterus in similar emergencies, writes:

“If the os be not open enough a Barnes' bag should be introduced, while firm pressure is kept up to prevent uterine accumulation. Should the collapsed condition of the patient be very marked the mere shock of the operation might turn the scale against

her. Under such circumstances it may be better practice to delay further procedure until, by the administration of stimulants, warmth, etc., we have succeeded in producing some amount of reaction, keeping up, in the meanwhile, firm pressure on the uterus." Again he writes of turning in placenta-previa: "Much harm, however, has been done when it has been practiced before the os was sufficiently dilated to admit of the passage of the hand, or when the patient was so exhausted by previous hemorrhage as to be unable to bear the shock of the operation. The records of many fatal cases in the practice of those who taught as did the large majority of the older writers, that turning at all risks was essential, conclusively prove this assertion. It is most likely to prove serviceable when, either at first or after the use of the tampon, the os is sufficiently dilated to admit the hand, and when the strength of the patient is not much enfeebled."

Although two hours elapsed between diagnosis and dissolution, there was no time during the interim at which judicious reasoning would have sanctioned attempts at either turning or dilatation. Under a condition where each moment has inestimable value, the delay linked to pursuance of suggestions cited, must inure to augmented—even fatal—detriment.

Reiteration is less grievous than obscurity. I repeat, that in grave concealed accidental hemorrhage, occurring between the seventh month and full period of pregnancy, where the neck of the womb is thick and the os slightly if at all open, dilatation with the water bag of Barnes is prodigality of moments few and precious.

To obtain an empty and contracted womb is certainly the proper indication, but facing the emergency defined such tedious and duplex methods of attaining it seem more than circuitously slow.

Effectual interference must be prompt and radical. Ergotine, transfusion and hysterotomy seem rigidly scientific and ap-

propriate. Unstripped muscle is contracted by the first, the second replenishes collapsing vessels, while the third removes the remaining cause of uterine distension. Transfusion has a positive value thoroughly attested.

Never, perhaps, was this exhibited to better advantage than in a case of ante-partum hemorrhage, combatted successfully by Harrington. Duty and heroism are alike typified in the reported management. I quote from an abstract in the *American Journal of Obstetrics*, for May, 1886:

"This case, in the treatment of which Dr. Harrington showed great pluck, had, previous to her pregnancy, a slight endometritis. At the end of the eighth month, after lifting some small article, she felt a severe pain in the back which was followed after half an hour by a sudden rush of blood. Labor pains came on and were severe and almost constant, the cervix was low down in the pelvis, hard, and undilatable, admitting with difficulty the finger-tip.

Four hours later there was a second severe hemorrhage which was controlled by plugging the os with the finger; patient was blanched; pulse, 120. Ether was given and attempts were made to dilate the cervix which finally tore. Child was delivered by turning, placenta coming alongside of it. Profuse hemorrhage continued during these manœuvres. Uterus contracted well, but hemorrhage continued even after injection of hot vinegar and water. Speculum showed that it did not proceed from cervix, and ferri subsulph. was used, flow ceasing. Hypodermics of stimulants were given repeatedly: legs bandaged to hips, and patient inverted, but she remained blanched, almost pulseless, gasped for breath and was rapidly sinking. Infusion was now tried, thirty-six ounces of a salt solution being passed into the right median cephalic vein (through a glass funnel, rubber tube, and large aspirator needle tied into the vein; previously exposed by dissection) with immediate and marked effect; the gasping

ceased, a faint flush appeared on the face, pulse fell to 120 and was of fair strength. Forty-five minutes later another sudden and severe flow occurred. This was controlled, but the patient's condition was most desperate. Other means of stimulation proving unavailing, infusion was again tried as a last resort, thirty ounces of the salt solution being added to the circulation in forty minutes. The pulse reappeared, ranging between 150 and 160, and could only be accurately counted at the chest. In twelve hours it dropped to 140 and was strong; in thirty-six it fell to 130. Patient recovered. Dr. Harrington used the formula of Mikulicz:

R

Sod. chlor., 6.
 Sod. bicarb., 1.
 Aq. destil. 1,000.

M. Sig.

Inject from one to three pints at a temperature of 100° F."

Transfusion must hold high order amongst subsidiary measures. Its intended employment in the case of Mrs. M. was only forestalled by sudden demise.

A week before this death, Drs. Taylor, Enright, Hood and Anderson present, I had performed another Ceasarian Section, and its efficient simplicity, including control over uterine circulation, has recalled it as a probable therapeutic desideratum, I venture to surmise its not unfrequent applicability to these special hemorrhages. Given equivalent depression or reaction, could it be more shocking or less expeditious than the dilating and turning so commonly recommended?

If attempted at all, the section must be judiciously elected, not tried in collapse as a dernier resort. One here confronts a frightful disaster, coupled with enormous mortality, and in this prospective, it might be said, even tentative daring finds justification. Placenta-previa has a less unfavorable prognosis than such accidents. The

maternal deaths from the former cause, estimated ten, twenty-five and thirty per cent. by Barnes, Read and Churchill respectively, are fewer than those arising from the latter casualties.

In 106 cases, as shown by Goodell, fifty-four mothers perished. Child death has eventuated in half the reports of previous placenta, but in 107 hemorrhages, titled as above, only six of the offspring survived.

Lacerated terminal branches of the umbilical arteries and extensive dissection of the placenta render abbreviation of infantile necrology problematical if not a priori hopeless. In this respect, however, the gloom of the present status could not be exceeded and the future might possibly produce an assuring comparison.

The premises grant hysterotomy a mother's operation, yet the interests of a child are in no way jeopardized. It is not the dilemma of hydrocephalous or advanced ossification of the cranium, and the duty of attendant is not obscured by such casuistic conundrums.

Since the development of its technique by Sænger, Ceasarian Section dates a new power in obstetrics. Old records must be relegated to the obsolete, and revised notations be employed to represent results very much more promising.

In the April number of the *Journal of the American Medical Association* a letter to Prof. Zinckl from Dr. Harris places the percentage of recoveries out of fifty-eight cases at about seventy-two per cent., and a letter from Dr. Sænger to the same gentleman states, in a summary of seventy-six cases, that the maternal issue in seventy-six, three per cent. was entirely successful. Leopold has surpassed the above figures, no less than nine of his ten operations having terminated favorably. These data from recent statisticians point a chance of safety to the bleeding woman, which to deny her may at no distant day elicit deserved opprobrium. Continuing hemorrhage clearly established, with unopen os and failing pulse would in-

dicade urgent necessity for action. There have been no Ceasarian Sections for relief under such circumstances.

Rational hope is yet the only basis for their supposed therapeutic propriety. Opportunities for practical demonstration must arise hereafter. Dexterity and courage while failing herein to achieve the great marvels of a Leopold, might still cast shade on hodiernal procrastination with its frequently resultant infelicitude.

Vast widening of the field for abdominal exploration has begotten a ubiquitous operative cacoethes and initiatives bearing tremendous consequences are taken none too carefully. Let profound and conscientious men determine whether or not in the event premised hysterotomy has valid indications.

HYSTERECTOMY.

BY

W. W. KEEN,

M. D.

Remarks to the Philadelphia
County Medical Society
stated meeting,
April 11,
1888.

Reported for PROGRESS.

The following notes of this case I owe to the courtesy of Dr. John K. Mitchell, her attending physician:

"Miss X, aged forty-two, American, author. Family history good. Previous personal history good up to about twelve

years ago, when she began to suffer in many ways, pointing toward a uterine growth. After two years or more of treatment, Dr. S. Weir Mitchell recommended that the ovaries should be removed. This was done *per vaginam* by Dr. Wm. Goodell in the winter of 1876-77. The tumor diminished, but she has never been free from pain since, chiefly in the left hypochondrium, but extending both up and down. For between two and three years before I first saw her (January 25, 1887) her general health had been steadily growing worse, and the distress in the side increasing to such a degree that she was utterly unable to work, and was wretched alike in body and mind.

"*Status præsens*, January 25, 1887,: Slight woman, anæmic, not emaciated, com-

plexion pasty. Heart and lungs normal. On examining the abdomen externally a very slight abnormal increase in the uterus upward and to the left was detected. I supposed it the remnant of the old growth, but the patient did not desire a vaginal exploration made and I was unable to examine it further. There was here no pain or tenderness. An inch below the lowest angle of the ribs on the left side, was situated a spot not larger than a quarter of a dollar, tender on pressure, and nearly corresponding in situation with a similar but less defined area of tenderness posteriorly. Most of the distress complained of was vaguely placed whereabouts.

"The kidneys could be clearly outlined by percussion, and showed no change from the normal in the areas. The urine was natural, but sometimes contained a slight excess of uric acid formations; bowels always slightly sluggish and the appetite poor; no digestive trouble; she slept very ill, being unable to lie on the back or on the left side, as either position increased the pain in the side, and finally caused a suffocating sensation. It is also greatly aggravated by very slight physical exertion, by sitting in one position, and by constipation. It is now so constant and severe that Miss X. complains of 'losing her grip,' of inability to work to good purpose, and of great irritability.

"*Treatment*.—In spite of the previous ovarian and uterine trouble, the situation of the pain seemed to me to be so far from the former sight of the ovaries that I was doubtful of their having any share in the present difficulty, though the thought of a nerve caught in the stump left after their removal occurred to me. My treatment was at first directed to the slight lithæma. Alkaline waters and a regulated diet did little good, and I returned to the view of the implication of a nerve in the cicatrix, and for some weeks passed a galvanic current through the body, with one pole on the posterior tender spot and the other over the one in

front. Miss X was for two or three months much relieved by this, and grew better when a tonic mixture of iron, quinine, and strychnia was given. The treatment was interrupted for a short time by a slight attack of acute articular rheumatism in the left foot and ankle. This yielded readily to salicylates, but returned in a less degree once or twice afterward. For a time cannabis indica tincture at night helped her to sleep, but did no permanent good.

"Throughout a summer in the country her condition varied; but in October she was decidedly worse—more pain, more mental and physical disability, and, finally, repeated violent neuralgic headaches. The fact that there might be a pressure on a nerve, and possibly on the bowel, from the cicatrix of the old wound again occurred to me. There was possibly, also, nephritic trouble suspected. In order to determine the facts, a careful examination under ether was advised."

Early in October, 1887, with the assistance of Dr. J. K. Mitchell, I etherized and examined Miss X. with great care. I found the uterus small, the internal measurements two and one-quarter inches; normal position; freely movable; the posterior wall somewhat thickened. On each side of the uterus a distinct tumor was found about the size of an English walnut. That upon the left side was movable independently of the uterus, and was thought to be the knobbed end of the stump resulting from the previous operation by Dr. Goodell. That upon the right side moved strictly with the uterus and was thought to be a uterine myoma. No other lesion was found in the pelvis. There was nothing detectable in the abdomen in connection with the left kidney, in front of and behind which, the chief pain was complained of.

In view of the extremely wretched condition of the patient an exploratory operation was advised.

Operation November 9, 1887. Drs. J. K. Mitchell and W. J. Tayler assisting.

An incision was made in the middle line, five inches in length, from the pubes upward. As soon as the peritoneal cavity was opened the uterus came into view and the two tumors above described were immediately recognized. They were so intimately incorporated with the body of the uterus that it seemed hopeless to attempt to remove them separately. In view, also, of the other additional myomata now discovered, and described later with the specimen, it seemed to be the more unwise to leave the uterus in place; accordingly, a Kœberle *serre-nœud* was applied to the cervix, and the body of the uterus, with its attached tumors, after separation from the peritoneum, was removed by the scissors, the lateral attachments having been first ligated. The peritoneum was now stitched over the stump. Before removing the uterus a careful search had been made in the left hypochondrium, but nothing abnormal was found. The abdominal wound was now closed, first, by a continuous suture to the peritoneum, and next, by a row of stitches passing through the rest of the abdominal wall. The clamp was separated from the skin by small pads of sublimate dressing on each side, and a large sublimate dressing and a flannel binder were applied.

Dr. George Dock kindly examined the specimen, and reported as follows:

"The specimen consists of the body of the uterus with 3.5 cm. of the right Fallopian tube and corresponding parts of the round and the broad ligaments, and 1 cm. of the left Fallopian tube, the round and the broad ligaments on that side being cut off close to the uterus and the tumors described below. The remains of the ovarian ligaments cannot be made out.

"The fundus is of average size (nullipara) and appears to be cut off just below the internal os. The anterior surface is of normal curve. About the middle of the right border is a subserous fibromyoma, the size of a small bean. The posterior surface bulges excessively, the projection being due

to the presence of a mural fibroid tumor which makes up most of the bulk of that part of the organ. The cavity of the uterus (fundus) is flat from before backward, and is triangular in outline, the opening in the tubes being in the two upper angles, the os internum in the lower. The sides of the angles measure: Right, 27 mm.; left, 22 mm.; upper, 25 mm. The right upper angle is at a higher level than the left, the wall of the uterus being relatively thinner on that side. The surface of the cavity is smooth, and presents three small polypoid growths, two on the anterior, one on the posterior surface. The anterior wall is 8 mm. in thickness, the posterior 2 cm.

"The tubes show nothing abnormal. To the right of the fundus in front of its transverse axis and 1 cm. below the level of the insertion of the round ligament, is a tumor the size of a walnut (36 x 26 x 26 mm.). It lies in the angle formed by the broad ligament and the uterus, close to the latter, being separated by loose connective tissue and blood vessels. It is covered by peritoneum, the greater part of which is that forming the anterior fold of the broad ligament.

"The surface of this tumor is irregular. On section it is hard, creaks under the knife, the cut surface is dark gray in color. Around the periphery are whitish fibrous masses and extreme calcification.

"Microscopic examination of this growth shows it to be a myoma which has undergone partial necrosis, with pigmentation and calcification.

"To the left of the fundus, behind the transverse axis, is another tumor, slightly smaller than the one just described (33 x 26 x 28 mm.). Its upper surface is on a level with the fundus. Its nodular surface is covered with peritoneum, and it is separated from the uterus at a distance of 5 mm. by loose connective tissue in which lie two smaller tumors. On section it shows a lobular structure of firm white tissue (fibromyoma). In the upper part are masses of hard, calcareous matter (calcium carbonate).

The two smaller tumors in the connective tissue are myomata."

For the next three days the patient complained greatly of pain, which was relieved by considerable doses of morphia. It should, however, here be stated that she bore pain badly. Her highest temperature was 99.7° F., and the normal was reached at the end of the third day. At this time, of her own accord, she declined any further morphia. The catheter had to be used for the first three days. With the exception of a rather obstinate constipation, which caused considerable abdominal pain and sleeplessness, which last was relieved by cannabis indica, her later history was uneventful, saving in one particular. The wire was tightened to the utmost limit in the course of the week after the operation, but the stump did not slough nor did the clamp become loose. As the clamp was producing ulceration of the skin, it was removed December 2d. The wound, at this time, was reduced to a tubular sinus leading down to the stump. The last slough from the stump did not come away until December 26th, and the wound was completely healed January 6, 1888.

Since that date the patient has been absolutely well, physically and mentally. She eats and sleeps well, and takes active exercise with more satisfaction than at any time during the last twelve years; in fact, she is thoroughly restored to good health.

To complete her history, I will add the examination of her eyes by Dr. DeSchweinitz, "oval disks; rather too gray; retinal haze, both venous and arterial; lymph sheaths distended. This low grade of retinal disturbance is, I think, purely accommodative. There is a high degree of insufficiency of the internal recti." He prescribed the proper glasses.

The removal of the ovaries by Dr. Goodell, which was done *per vaginam*, was one of the earliest of such operations done in this country. It reflects no little credit upon his skill, that in so contracted a vagina he was able so successfully

to remove the ovaries. Although this operation relieved her temporarily from pain, it proved of no permanent benefit. Her pains returned, and though located differently grew worse and worse, so that, finally, all mental exertion and all physical exertion as well, became greatly hampered. In fact, writing, which was her vocation, became impossible. She was willing to undergo any operation whatsoever which held out any chance of relief. She preferred to die rather than to live in such wretchedness.

The diagnosis was very obscure. What the meaning of the pain in the hypochondrium was, I could only surmise. The two tumors on each side of the uterus were believed to be, one a uterine myoma, and the other an enlargement on the stump following Dr. Goodell's operation.

An examination of the specimen shows, as to the first, that I was right. But no enlargement has taken place on the pedicle on the left side; the tumor being one of a number of myomata developed in connection with the uterus. Its situation at the cornu uteri very naturally misled me.

No other operation than hysterectomy would, I think, have been advisable. Its performance was easy; and its results have been perfect.

Why the removal of the uterus, with its attached myomata, should get rid of pain in the hypochondrium I am unable to say. To say that it was reflex pain, is simply to express our ignorance in different words. Certain it is, however, that the removal of the entire internal organs of generation have been followed with the happiest results, whereas, the removal of the ovaries alone, gave but little relief.

I have deemed it important to report the case, in consequence of the recent question, as to the results of complete and incomplete removal of the tubes with the possibility of the developement of tumors on the stumps after incomplete removal of the tubes. My first impression upon examining the specimen itself, was that the two tumors were such knobby stumps, but after section and microscopic examination by Dr. Dock, this impression was seen to be erroneous.

PATHOLOGY AND HYGIENE.

SUPPURATION
AND SEPTIC
DISEASES.

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A Lecture Delivered at the Royal College of Surgeons, London.
[CONCLUDED.]

Emmerich states with regard to cultivations of erysipelas cocci that they vary much in virulence, and that the longer the time between each fresh inoculation, the less is the virulence of the culture; in fact, the erysipelas cocci can be readily attenuated to such a degree that they can no longer kill mice.

It is important also to remember that

where the virulence of an organism is diminished, its effects on animals vary in accordance with the second law; thus if a considerable number of attenuated anthrax bacilli are injected into rabbits the result will be, not a general fatal disease, but a local inflammatory affection, with possibly the production of abscess, varying in degrees to a certain extent with the amount injected. In fact, the effect of the attenuated organisms on animals highly susceptible to the virulent virus is the same as if virulent organisms were injected into less susceptible animals, and consequently, in order to produce the same effect as the virulent organisms, correspondingly large doses of the attenuated organisms are required. Thus Kitt and Hueppe have found that they could obtain the same result by injection of the organisms of an infective disease of deer into animals if, as the organisms lost their virulence, the number of microbes injected was increased. These facts are also important as showing how, even in a mild epidemic of a disease, where the virulence of the virus is not very great, bad cases may occur where extra large doses of the virus have been taken in, and this is probably in part the explanation of the occurrence of isolated severe cases in the course of a mild epidemic.

It is further important to remember that loss of virulence may not only be due to the ordinary conditions of growth, but may result from the action of various chemical substances. Thus carbolic acid and other antiseptics apparently diminish the virulence of anthrax bacilli, and it is possible that something of the same kind occurs with regard to the pyogenic cocci in wounds; and this may to some extent explain why, at the present day, although pyogenic cocci occasionally enter wounds treated aseptically, they sometimes do but little harm, less harm, in fact, than when they enter wounds in the treatment of which these antiseptics are not employed. It is quite possible that in growing in fluids containing a minute amount of an antiseptic, they are deprived, at any rate to some extent, of their virulence.

As regards increase of virulence, a very curious observation has been made in reference to the bacilli of symptomatic anthrax. It has been found that the addition of a minute quantity of lactic acid to a fluid containing these bacilli increases the virulence of a very attenuated virus within a very short time. Thus Arloing, Cornevin, and Thomas found that if to a fluid containing these bacilli $\frac{1}{500}$ part of lactic acid is added, and the mixture allowed to stand for twenty-four hours, the pathogenic power is increased two-fold; if then a little water, containing a very easily fermentescible sugar, is added to the mixture, and another twenty-four hours allowed to elapse, the virulence has attained its maximum, and frogs inoculated with this virus die in from twelve to fifteen hours, whereas when inoculated with ordinary virus they live forty to fifty hours. Kitt has repeated and confirmed these experiments, and he mentions the following: A small quantity of the vaccine material—that is to say, the attenuated virus of symptomatic anthrax—was divided into two parts, of which one was mixed with water, and injected into two guinea-pigs, while the other was mixed with the same quantity of water, to which three drops of lactic acid had been

added; this mixture after standing for six hours, was injected into the other two guinea-pigs. The result was that the first two guinea-pigs remained well, the virus being very attenuated, while the last two guinea-pigs died of typical symptomatic anthrax within twenty-four hours. With regard to this point, it is worthy of note that the pyogenic cocci, when grown in milk, for example, produced lactic acid, but, so far as I am aware, there is no evidence that under these circumstances, their virulence is altered. Something of this kind may, however, be the explanation of Ogston's results; he found that if pyogenic cocci were grown in eggs, their virulence was increased, and he attributed this result to the absence of oxygen. I tested this matter with regard to the possible alteration in virulence when grown in various gases without being able to make out any noticeable difference; but it may be that, in Ogston's experiments, some chemical substance was present in the egg, or was produced by the organisms when growing in that material, which led to the increase in virulence. The fact with regard to lactic acid does not apply to the coccus of pneumonia, which, according to A. Fränkel, loses its virulence most quickly when grown in milk, and, in his opinion, this is due to the presence of lactic acid produced by them. Whether or not this fact has any bearing on our subject, it is worth remembering as showing what slight and unexpected causes may alter the virulence, and thus cause a difference in the result of the action of these organisms.

Concurrent Growth with other Bacteria.—

We have also to consider the effect of the concurrent growth with other bacteria, and we shall find that the result may be either to increase or diminish the pathogenic action of the pyogenic organisms is generally increased. When two organisms grow together in the same medium outside the body, they either do not interfere with each other, or, what perhaps most frequently happens, one of them gains the upper hand

in the struggle for existence, and, if a number of bacteria gain access to a wound, a struggle for the mastery at once commences between the different kinds. In wounds, this struggle in most cases probably ends in favor of the pyogenic cocci, and, as the result of the concurrent growth, other factors come into play which still further aid their action. Thus, although the pyogenic cocci gain the upper hand, the putrefactive bacteria may aid their action very much, for the products of putrefaction, when absorbed, act in an extremely poisonous manner, depress the vitality of the patient, and may thus enable the cocci to live in the body; and locally these products injure the young granulation tissue of the wound, and may thus open up an entrance for the pyogenic organisms. I have already referred to the experiments made by Grawitz and Scheuerlen on cadaverine and putrecine, products of putrefaction, and it will be remembered that the experiments showed that these substances, when present along with the pyogenic cocci, enabled the latter to obtain a foothold in the body.—The bad effects resulting from the concurrent growth of different kinds of bacteria is also very evident in tubercular cases. If a sinus leading to carious bone, the wall of which is lined with tubercles containing tubercle bacilli, becomes the seat of development of these pyogenic cocci, the result may be—in fact, generally is—a more rapid growth of the tubercle bacilli; and it seems that it is just in these septic cases, especially where irritating injections are also employed, and the danger of further and general tubercular infection is greatest, the local depression of vitality produced by the septic organisms enabling the tubercle bacilli to grow more luxuriantly.

Then also in some instances it appears that a mixed infection is more dangerous than a pure infection. Thus, in some cases the presence of more than one kind of pyogenic organism apparently increases the severity of the suppurative process. Kraske, for

example, has observed in acute osteomyelitis that the cases were most severe when the infection was a mixed one, that is to say, when the disease was caused not only by the *staphylococcus pyogenes aureus*, but where in addition, “*albus*,” and in some cases the *streptococcus pyogenes*, were also present; and, as a result of his observations, he thinks that the discovery of mixed infection in acute osteomyelitis ought to lead to a bad prognosis. Probably, also, one reason why we so seldom, at the present, day see the extremely bad septic cases formerly described is that, even where the treatment is not thoroughly aseptic, such precautions are taken as to exclude not only gross masses of dirt—in other words, large numbers of the organisms—but also a great mixture of them. And this is possibly also in part the reason why, in my first work on this subject, I was led to think that bacilli were of more importance in wounds than micrococci, for I observed that the wounds in which both organisms were present, did not pursue so favorable a course as where the cocci alone were found.

Apparently, however, in some cases the presence of two species of pathogenic organisms is better for the animal than if only one species were present; and although the facts as yet made out have no direct bearing on the production of suppuration, yet, as they are of great interest, and as something similar may occur in the case of the pyogenic cocci, I shall mention some of the experiments. A number of observers have attempted to utilize the antagonism which exists between certain species of bacteria in cultivations outside the body as a means of cure when the body is attacked by organisms, but till quite recently these attempts have not been followed by success. Emmerich, however, has lately performed some very remarkable experiments on rabbits, showing the value of the *erysipelas* cocci as a protective and curative agent against anthrax in these animals. For example, in one set of experiments rabbits

were first inoculated with large numbers of the cocci of erysipelas, and then two to fourteen days later anthrax bacilli were introduced. Of fifteen animals treated in this way, seven recovered while all the control animals inoculated with anthrax alone died; of the seven animals which died after inoculation of both organisms, some succumbed to the anthrax bacillus and some to the erysipelas organisms. The results were not so successful when, after anthrax had been set up and after symptoms of disease had appeared, erysipelas cocci were injected subcutaneously; but they were somewhat better where the erysipelas cocci were injected into the blood stream.—In a later paper Emmerich and Mattei communicated results obtained by injecting erysipelas cocci into the circulation and subcutaneously in rabbits about twenty-four hours before infection with anthrax. They found that in rabbits in whose bodies large numbers of erysipelas cocci were present, anthrax bacilli, though injected in enormous numbers, were destroyed in from twelve to seventeen hours, and could not be found either at the seat of injection or in the blood and internal organs, whether by microscopical examination or by cultivation. The bacilli were evidently unable to penetrate into the blood or internal organs, nor could they cause any local reaction or œdema; in fact they very quickly died out.—Perhaps still more remarkable are the experiments performed by Pawlowski. He found that after injection of a mixture of erysipelas cocci and anthrax bacilli under the skin of seven rabbits, only two died. Pawlowski has also made the important discovery that the erysipelas coccus is not the only organism which interferes with the growth of anthrax in the body. Thus, ten rabbits were first inoculated with anthrax bacilli and then cultivations of micrococcus prodigiosus were injected subcutaneously into each animal on two occasions two and twenty-four hours after infection; of these ten animals, eight recovered. He also found subcut-

aneous injection of anthrax bacilli and staphylococcus pyogenes aureus was not followed by the death of the animal; four rabbits treated with “aureus” recovered.

As to the explanation of these facts, Emmerich and Pawlowski come to very much the same conclusion. Apparently with the exception of the pneumonia coccus, anthrax bacilli grow readily outside the body in cultivations containing also the other organisms mentioned, such as the erysipelas coccus. Hence, the explanation can not be that the erysipelas cocci *per se* prevented the growth of the anthrax bacilli in the body. It seems to be rather that these cocci irritate the cells of the body, the phagocytes, and increase their destructive power; it may be, as Emmerich suggests, that this irritation leads to a slight alteration in their physiological functions, so that they excrete some chemical substance which is very injurious to the anthrax bacilli.

How far these facts may be applied to the treatment of anthrax pustules in man, where either from the situation or the size of the pustule excision or cauterisation is impracticable, is a question very difficult to answer, but it seems to me that we must await the results of further investigations before any attempt to apply them practically in man would be justifiable. In any case, the facts are well worthy of note as affording another example of what unexpected factors may come into play if we once admit organisms to wounds.

Local and Seasonal Conditions.—Lastly, we have certain local and seasonal conditions which appear in some way or other, to influence the occurrence of some of these diseases. For example, Eschbaum, who has gone into this matter very carefully, finds that spontaneous erysipelas occurs most often apparently in February, then next most frequently in November, and least frequently in July. Apparently the cold months, and those where there is most moisture and greatest variations in temperature, show the largest number of cases, and

Eschbaum summarises the facts by saying that the cases are most numerous when we have marked variations of temperature, with a medium height of the barometer and a high degree of moisture. In the case of diphtheria also, cold and moisture seem to be a great predisposing cause, most cases occurring about the months of November and December. Kocher and Lücke have found that acute osteo-myelitis also is most frequent in winter. Probably besides the seasonal conditions, the confinement in badly ventilated rooms, foul air and want of exercise which come into play more frequently in cold and wet weather than in summer, have an important influence on the result. In the case of diseases of animals, more especially in the case of anthrax, there is a very marked relation between the season and the outbreaks of the epidemic, the disease apparently occurring where there is great moisture and a high temperature. As regards the anthrax, Chauveau has shown that increased atmospheric pressure tends to cause a loss of virulence.

As an example of the influence of locality on these suppurative diseases, we have the greater frequency of acute osteo-myelitis in certain parts; for example, this disease seems to be more frequent in Berne than anywhere else, and, according to Volkmann, it occurs next most frequently in Halle, and then in Marburg; these, however, are rather impressions than actual statistical facts.

SUMMARY.

We thus come to the end of our considerations with regard to the factors involved in the production of suppuration and septic diseases. It must be admitted that our knowledge still shows many blanks, but nevertheless, enough has been gained to enable us to judge what are the most essential factors which come into play. That the pyogenic organisms are essential for the production of these diseases as they occur naturally there can no longer be any doubt;

but in many cases much depends on other conditions, of which the chief probably are the dose or number of the organisms and their concentration, general and local depression of vitality, and the seat of inoculation. If the organisms enter in large numbers, sufficient to overcome the resistance of the body, they alone may cause the disease; frequently, however, they enter in smaller numbers, and then other conditions become necessary to enable them to act. Of these conditions the chief are, as I have said, depressed vitality—either local or general—combined with the possibility of their remaining in the weakened tissue. This depression of vitality may be brought about by conditions acting on the body generally, such as acute fevers; or by local conditions, more especially those which induce the early stage of inflammation, such as cold, injury, chemical substances, the products of the bacteria themselves, or the products of other kinds of bacteria which may happen to be growing along with them. Or again, the favorable condition may be some peculiarity in the soil, as shown by variations in the character of the disease in accordance with the seat of inoculation and the anatomical arrangement of the part. The only factor, however, as I have said before, with which we can reckon with certainty, is the cocci themselves.—I need not enter into details as to the pathology of all the various suppurative and septic diseases, it will be easy for any one to apply the facts which have been stated to each case; but in conclusion, I should like to make one or two remarks with regard to the mode of entrance of these organisms into wounds.

OCCURRENCE OUT

SIDE THE BODY.

These organisms are fairly, widely distributed outside the body.

In the air they have only been found on a very few occasions, and in very small numbers. *Staphylococcus pyogenes aureus* has been found on one or two occasions in the air of surgical wards, as has also the strepto-

coccus of erysipelas. Experiments have been made as to the presence of the latter organism in the air of wards in which erysipelas patients were present, and they have in one or two instances been found in small numbers; as a rule, however, they are apparently present only when the patients are in a state of convalescence and when desquamation of the skin is occurring, and it seems highly probable, from the observations that have been made, that they are carried in the cutaneous scales thrown off during desquamation. Erysipelas cocci have also been found in a *post-mortem* room where cases of erysipelatous infection had occurred, and in this case the infection was supposed to have come from the floor. The pyogenic organisms are very rarely present in putrefying fluids, but they have been found on decomposing beef, and in the water employed in kitchens for rinsing dishes; they are also sometimes present in the superficial layers of the soil. One of their most common seats outside the body is the surface of the skin, and they especially occur in parts where the skin is moist, for example in the axillæ, between the nates, between the toes, etc.; they are also frequently present in connection with the hair, and in the dirt beneath the nails. Fränkel has found them in the secretions of the healthy pharynx, and Bockhardt found "aureus" and "albus" in large numbers in the nasal mucus of a patient suffering from chronic catarrh of the nose, and at the same time affected with sysochis of the upper lip.

MODE OF
ENTRANCE
INTO WOUNDS.

ing an operation from the air, from the instruments and hands of the operator or his assistants, from surrounding objects, or from the skin in the neighborhood of the wound. We are now, however, sufficiently acquainted with the various precautions necessary to

As regards the entrance of these organisms into wounds, they may get in dur-

prevent the entrance of these organisms, and it is a comparatively easy matter to leave a wound made through a previously unbroken skin without any pyogenic organisms in it.

In the after-treatment of wounds there are two situations where the battle with these parasites may take place; it may either occur outside the wound, the organisms never being allowed to enter it, or it may take place inside the wound after their entrance has been permitted. It is hardly necessary to remark that in case of war we try, if possible, to carry the war into the enemy's country, at all events, we do all we can, by guarding the passes and borders, to prevent the enemy from entering our own country; and in like manner, in the case of wounds, it seems to me that it is much better to keep these pyogenic organisms out of the wound and to do battle with them outside the body, than to let them enter and trust to the efficacy of the tissues to repel their attacks. For once they have entered the wound, it is but little that we can do to aid the action of the body, and what little we do do has to be done with extreme caution, for not uncommonly our efforts, instead of being of service, do a great deal of harm. As I have said, it is comparatively easy now to keep these pyogenic organisms out of a wound while it is being made, and to leave the wound without any of the microbes in it; the problem is to prevent their entrance afterwards. In this case, however, we have at any rate succeeded in transferring the field of battle from the interior of the wound to the surface of the body, and we have no longer to trust to the imperfect and but little understood action of the tissues; we can step in with vigorous action without any fear of doing harm. For it cannot be too much insisted on that antiseptic dressings are not, in their essence, applications to wounds; they are applications to the discharge which has come from the wound and to the skin around it.

As to the mode of entrance of these pyo-

genic organisms after the operation, they may get in while the dressing is being changed, either by falling in from the air, though this must be of rare occurrence seeing that they are so rarely present in the air, or by contamination by the surgeon's hands, instruments, etc.; but this is also very easily avoided, and ought not to occur. Usually they spread in either through the dressing or beneath it during the interval between the change of dressings. In my opinion they most commonly spread by growing in the discharge which is lying between the dressing and the skin, and in the superficial layers of the epidermis, more especially in the latter; for as the result of the irritation of the antiseptic employed there is hypertrophy of the epithelium, and thus a large number of dead epithelial cells are present, which, being soaked with the discharge, form a good nidus for the development of the bacteria, unless, indeed, enough of the antiseptic has been communicated to the discharge and the epithelium from the dressing to render it an unsuitable soil for the growth of organisms. If this is not the case, the organisms will go on growing in the substance of this dead epithelium, protected by the superficial layers from the action of the dressing, and thus they may, if a dressing is left on for too long a time, ultimately reach the wound. This is not a mere theoretical speculation, for I have been able to trace the development of the organism beneath the dressings, from their margin towards the wound, the extent to which they spread varying with the length of time that the dressing has been applied.

If these views as to the mode of entrance of bacteria into wounds are correct, it follows that it is very important when a dressing is changed to wash and thoroughly disinfect the skin around the wound as far as the dressing extended, and beyond it, with an antiseptic lotion, care being of course taken by covering up the wound not to infect it while so doing. If this is done, then at each change of dressing the field of battle

is transferred from the neighborhood of the wound to the margin of the dressing, and in accordance with the size of the dressing, this battlefield will be at a greater or less distance from the wound.

I shall not enter any further into the subject of the treatment of wounds. We have now at our command a large number of antiseptics which more or less answer the purposes required, and it is only by careful attention to the exclusion of these organisms that we can obtain the best results. That we can completely exclude bacteria from wounds—both at the operation and afterwards—I have been able to ascertain by numerous experiments; and that, just in proportion as we are successful in so doing, we are to a like degree freed from the occurrence of suppuration and septic diseases, and can to a like degree reckon with confidence on rapid and painless healing of wounds with the least disturbance to the patient, is a matter now of everyday observation.

SCOTCH OATS

ESSENCE.

The *Boston Journal of Health* has recently investigated the "Scotch Oats" Nostrum, which is extensively advertised and sold by the S. E. O. Co., New York. A search for the proprietors revealed the fact that the notorious Dr. H. H. Kane, of "The Opium Cure" fame, was President of this ambiguous firm of sharks. On analysis the "Essence" was found to contain a very large per cent. of morphine. A patient taking the nostrum according to directions will get from one to ten grains of the alkaloid in a day.

When will State Boards of Health be vested with the power to prosecute and bring these charlatans to justice? The quack who sells a worthless preparation only preys on the credulity of his victim—a kind of genteel thief, as it were—while the wretch who manufactures this vile stuff is a villain of the deepest dye, who not only robs his victim; but binds him a hopeless slave to a habit worse than death itself, and stands a living monument of total depravity.

BOOKS AND PERIODICALS.

A MANUAL OF THE
MINOR GYNE-
COLOGICAL
OPERATIONS,

BY

J. HALLIDAY CROOM,
M. D., F. R. C. P. E., Q.
R. C. S. E.Revised and enlarged by
L. S. McMurtry, A. M.
M. D., Philadelphia
Record, McMil-
len & Company,
Limited.

An essay by Dr. Ely Van de Warker before the Gynecological Section of the American Medical Association, at its recent meeting, in Cincinnati, demonstrates very clearly that there is an urgent necessity for greater thoroughness in the matter of teaching gynecology in most

American Schools. While its general principles are admirably taught yet no one feels more than the average graduate the lack of that necessary skill in its technique which comes only by clinical instruction. To supply that conscious deficiency he wishes for some work that will give him in a simple way the minutest details of the minor gynecological operations, from lectures and comprehensive text books he has been given the principles.

Several years ago Dr. Mundé issued a complete manual which at that time contained the recent advances in that department, but so rapid have been the strides and so great the improvements that it no longer supplies the beginner's and general practitioner's needs.

Dr. J. Halliday Croom, of Edinburg, has brought up to recent times his admirable hand book, which had an extensive distribution throughout Great Britain.

Fully alive to the need of such a work for the American profession, Dr. L. S. McMurtry has edited an American edition, with such revision and improvements as will make it particularly valuable to those just beginning the study and practice of this specialty and to the general practitioner.

The editor's introduction is particularly interesting and instructive, and clearly shows his thorough knowledge of the most advanced views in modern gynecic surgery.

Throughout the text will be found the

editor's contributions, dealing chiefly with those questions wherein the American differs from the English plan. Generally, these differences are unimportant and pertain only to details. The analysis of each chapter is the useful and pleasing feature of the work, and presents at once the whole question before the mind.

The chapters on laceration of the perinæum, that form described by Emmet, in which the subjacent connective tissue is separated, and that on laparotomy are contributed entire by the editor.

The chapter on laparotomy is concisely but intelligibly written, and commits Dr. McMurtry to the antiseptic and aseptic methods of wound treatment.

The proper adjustment of a pessary is one of the most important and difficult of the minor gynecological operations. The function of pessary is to maintain the uterus in its normal place in the pelvis, and if possible in its normal position.

When the uterus is below the normal level the traction made upon the ligaments impedes the venous circulation through the organ, which increases its weight and begets uterine catarrh and structural changes. To lift the uterus to its normal place, and to retain it there with a pessary, which acts as does a splint in retaining the fragments of a broken bone, should be in the surgeon's mind while adjusting a pessary. Moreover, the surgeon should never forget that the uterus is a moveable organ, not to be fixed in an ideal position. For this reason all the cup pessaries supplied with external attachments, fix the uterus so as to prevent its normal movements, or if inaccurately adjusted, it may readily assume any of the various mal-positions. These instruments have the additional objection of constantly reminding the patient of their presence, which is sufficient of itself to condemn their use. In the adjustment of a displaced uterus, whether the mal-position be prolapse, or anterior, posterior, or lateral displacement, the patient's comfort is the only relia-

ble and trustworthy guide. When, for example the prolapsed uterus is lifted from the floor of the pelvis with the finger, upon reaching the normal place of its location, the patient will experience a sense of comfort, and if the organ be retained there by a properly fitting pessary the feeling of fullness and bearing down with the accompanying reflex disturbances will pass away. The sense of relief and comfort is the guide to the proper adjustment of a pessary. It will be difficult to find a single pessary which will accurately fit any two vaginae, and it should be the surgeon's aim to fit each pessary to the conformation and requirements of the individual case. With a view to applying this important principle, Dr. Marion Sims suggested the block-tin pessary which can be moulded at will to the desired form and yet retain sufficient firmness for the required purpose.

Dr. Emmet directs attention to the fact that the hard rubber pessaries, in general use, if smeared with grease which is free from water and slowly warmed over a gas jet, may be readily moulded to the desired shape.

The practitioner is often led to expect too much from the use of pessaries and experiences frequent disappointments in consequence. When accurately adjusted to the individual requirements of a given case these instruments render efficient and valuable service. Their routine use is sure to do more harm than good, in recognition of which fact Dr. George Granville Banktock has written a volume on "The Use and Abuse of Pessaries;" and Dr. T. Addis Emmet pronounces the subject one of the most important in gynecology and the "least understood."

[The Editor.]

By far the most instructive article on pessaries is to be found in this Manual. The principles on which their employment is based is briefly told, and the method of adjustment plainly and intelligibly explained.

The illustrations of the genito-urinary organs, and instruments are good. There are

many lithographic plates of exceptionally artistic value and anatomical correctness. Some are original and some from Savage's Classical work. The paper is good, the type all that could be desired, and the printers will have only praise for the good taste they have displayed in the mechanical feature of the work. The profession will thank the author and the editor for this admirable Manual.

D.

THE LOMB PRIZE ESSAYS.

The American Public Health Association has recently issued an admirable series of monographs. The series consists of the following prize essays by well known sanitarians:

I. Healthy Homes and Foods for the Working Classes. By Victor C. Vaughan, M. D., Ph. D., Professor in University of Michigan.

II. The Sanitary Conditions and Necessities of School-houses and School-life. By D. F. Lincoln, M. D., Boston, Mass.

III. Disinfection and Individual Prophylaxis against Infectious Diseases. By George M. Sternberg, M. D., Major and Surgeon U. S. Army.

IV. The Preventable Causes of Disease. Injury and Death in American Manufactories and Workshops, and the Best Means and Appliances for Preventing and Avoiding Them. By George H. Ireland, Springfield, Mass.

The names of the different authors is sufficient guarantee to the profession of their scientific worth and practicability. While their cheapness and simplicity of style, should recommend them to Health Boards, Sanitary Councils and Benevolent Societies, for general distribution as being the best and most economical public educators. The dissemination of such literature by sanitary boards and societies seems to be the only way of impressing the laity with the importance of hygienic measures, since, the secular press will not give space to sanitary science, so long as they can fill their columns with political gossip or sensational matter, whilst the medical journals are read by but few outside the profession.

CORRESPONDENCE AND SOCIETIES.

ASSOCIATION OF
AMERICAN MEDICAL
EDITORS.

The Association of American Medical Editors met in Parlor A. at the Burnett House, Cincinnati, Ohio, May. 7th, at 8 o'clock P. M. About fifty members were present.

The meeting was called to order by the President, Dr. William Porter, of St. Louis, whose address has already been published in the May issue of PROGRESS.

According to the programme, the first business in order, after the presidential address, was the report of the committee appointed last year to draft a constitution and by-laws. Prof. J. M. Mathews of Louisville, read the committee's report, which was taken up by sections, and with very little alteration adopted.

The new constitution and by-laws provide qualifications for membership which virtually exclude about one-half of the old members from the Association. At Atlanta, Ga., in 1879, Dr. Goldsmith, of the *Southern Medical Record*, introduced a resolution which, after some discussion, was adopted, providing for the admission of authors to membership in the Association. As time advanced the body found itself made up of three classes of members; active journalists, those who had formerly been actively engaged in journalism, and such authors of permanent works and valuable original contributions to periodical medical literature as might be invited to join. By the new constitution all except active journalists are cut out, and there is neither provision for honorary nor corresponding members. In addition to the officers who have formerly governed the body, the new law provides for a board of censors and an executive committee. It is also provided that the annual dues of members shall be one dollar, payable in advance. The question of an annual dinner was left to the Executive Committee and the Board of Censors, who were

also empowered to call special meetings of the Association. The annual meetings are to be held at the place of meeting of the American Medical Association for each year on the day preceding, as heretofore. The annual crop of presidential addresses is provided for under the head of duties of officers. The question of eligibility for membership must be determined by the Censors. The new rules are to take effect at the assembling of the next annual meeting, when the Board of Censors and the Executive Committee are to be chosen along with the other officers. The published programme of proceedings for the meeting at Cincinnati was not observed.

As soon as the adoption of the new constitution and by-laws had been announced by the President, the second question on the programme was introduced for discussion. The editor of PROGRESS having been designated to introduce this subject, Dr. Dudley S. Reynolds said:

MR. PRESIDENT—The question of the evil influences of the present custom of circulating in the form of legitimate and regular medical journals, periodicals devoted exclusively to the interests of some manufacturing firm or other mercantile establishment, should be condemned as seriously interfering with regular medical journalism. There are some journals which are published and circulated in the exclusive interests of manufacturers and dealers in medical supplies. These journals are ostensibly edited by reputable members of the medical profession. They are circulated either gratuitously or for some merely nominal sum, and the rural practitioner and the younger members of the profession in our cities are misled into the belief that such publications are to be accounted regular medical journals, when the truth is they are mere trade circulars, issued and distributed under false pretences as to the editorial management, and sent at pound rates of postage in the United States mail. Surely every manufacturer and dealer in medical supplies, including

instruments, books, drugs and all sorts of appliances, must recognize the distinction between an advertising card in the pages of a regular medical journal, which is representative of the whole profession or some special portion of it, and the pages of a mere trade circular, published for the purpose of introducing the products of one establishment. If the medical profession will encourage or even countenance trade circulars as legitimate medical newspapers or magazines, it is manifestly clear the regular medical journals, which are free from the control of such monopolizing influences as manufacturers and dealers, will soon be abandoned by those dealers and manufacturers who have not already established a trade journal. In other words, manufacturers and dealers in medical supplies will all be compelled to issue individually and separately some form of sham medical journal in order to reach the profession. It is plain, therefore, a demoralizing effect follows the distribution of such papers as are devoted to some exclusively commercial interest and are ostensibly regular and legitimate medical journals. The Association of American Medical Editors should resolve not to recognize as legitimate publications those which are devoted to commercial interests, and which are in no sense the organs of the general profession independently of dealers and manufacturers. This course will prove alike beneficial to the general reader of periodical medical literature, to the interests of legitimate medical journalism, and to those honest dealers and manufacturers who seek to take no mean advantage of either the credulity of the uninformed or the prejudices of the weak. I have taken occasion to observe some of the effects produced by this illegitimate form of journalism. A certain publication, which shall be nameless for prudential reasons, but which has for more than a quarter of a century appeared regularly every month in the form and character of a legitimate medical journal, and for years

and years at a time at a nominal subscription price per annum, and then other years, in a long series at fifty cents per annum. The publication has always circulated as legitimate second-class mail matter. It is devoted, and always has been, to the exclusive interests of a manufacturing establishment, and, to the disgrace of many members of the medical profession, the shrewdly worded articles contained in this publication are cited as authority for statements in original essays read in most of the medical societies throughout this country. A short time ago a physician presented an article on a new hypnotic. The article seemed to be valuable, and the publication had every appearance of a legitimate purpose to make known the results of experimental observation. Before the periodical for which this contribution had been made had been issued, two different manufacturers of the product lauded by the essayist, were making terms with the publisher for a special issue of reprints, and it was but a short time until these reprints were flying through the mails by the thousand copies. This may fairly be charged as one of the illegitimate uses of a regular journal. Neither of the manufacturers issued a trade circular, and both sought through the agency of this plaint tool in the profession to misstate facts in order to advance their pecuniary interests.

Prof. John V. Shoemaker, of the *Medical Register*, wished to include those journals edited with the scissors and paste pot, and which contain no original matter, but which, by the collection of articles clipped from other publications, often of the trashiest and most worthless kind, make up the body of the journal, whilst the advertising department is used in the exclusive interests of the publisher. He would endorse every thing the first speaker said, and he wished to add this particular class of illegitimate, irregular and worthless publications to the list of those already named as meriting the condemnation of an honorable profession.

Dr. N. S. Davis, Editor of the Association Journal, would like to include a protest against the introduction into the advertising pages of regular medical journals of patented and proprietary nostrums. He thought the whole system of advertising in medical journals should conform to the character and tone of the publication. He had noted publications, which, although they appeared to be perfectly regular, were circulating at so low a subscription price as to preclude the possibility of any revenue from this source, however large the list of subscribers might be. It had been painfully apparent in more instances than one that the editor, however laudable his ambition might be, was under the influence of some unseen power. As, for example, certain advertising establishments or medical schools or hospitals with which the editor might be connected, and whose pecuniary success might be greatly advanced through the medium such publications afforded for advertising the enterprise. He hesitated somewhat to enter into a discussion of the question, because it was a many sided question, with a little good cropping out here and there amidst a great amount of evil influence. He did not think any member of the regular medical profession ought to hire himself out as the editor of a trade journal, or any other kind of advertising circular. When he saw a medical journal, the subscription price of which was placed at a dollar or less, he felt sure there was some secret influence or motive at the bottom of the publication; and when he saw such publications with the guaranteed circulation of so many thousand copies, when the *bona fide* list of subscribers was in reality, in many instances, less than a hundred, he felt the profession of journalism was degraded and the general reader of medical literature was imposed upon, whilst the whole profession of journalism suffered by this questionable attempt at cheapening periodical literature. A reputable medical journal, to be successful in the payment of its printing bills and with fair

compensation to its editor, must contain original matter which is both new and valuable. It must be both a medical newspaper and a magazine of newly discovered facts. It is doubtful, however, whether it is best to discuss it in this way, or in the editorial pages of our own journals. It is clear, however, there is much room for reform in the popular methods of journalism in the medical profession of the United States.

Dr. Isaac N. Love, of the St. Louis Medical Review, thought many valuable contributions to medical literature might be found in the trade journals, and while they were irregular and unprofessional in character, we ought not to despise the knowledge they contain. He thought the advertising department of a medical journal should always be under the control of the publisher, yet he was willing to concede that it was desirable the editor should be consulted about the character of matter appearing in the advertising department.

Dr. Reynolds being called upon to close the discussion, said: As to those journals which are edited with the scissors and the paste pot, he found whenever they clipped from PROGRESS a discriminating intelligence had guided the scissors, and he had no sort of objection to the practice. There are too many trade journals and trade circulars which profess to be regular medical journals.

Dr. C. W. Dulles, of the Philadelphia Medical and Surgical Reporter, entering the room during the last speakers remarks, wished to say that some of the medical journals, ostensibly the most respectable and high-priced, were so thoroughly mercenary as to prostitute themselves to the interests of such publishing houses as sent the best books for review, and such establishments as sent the most valuable samples of wines and liquors, or other products which might be converted to domestic use. Not long ago he had received a neatly bound book designed to advertise a certain kind of wine. He was requested to review the book in the

Reporter ; but considering it a mere collection of testimonials to the efficiency of the wine named, he felt it in no sense entitled to be noticed as a medical book, and he declined. Greatly to his astonishment, however, he observed in the regular review department of the leading medical journals published in a neighboring city extensive and laudatory notices of the book, such as to mislead the reader entirely into the belief that it was a new medical book containing valuable information to the practitioner. He had observed that his course had resulted in pecuniary loss to the publishers of the journal he edits. He concluded, therefore, that the Association of American Medical Editors should unite in a determination to stand aloof from the tempting offers of mercenary publishers, manufacturers and dealers, who seek alike to prostitute legitimate journalism and to obtain an unfair advantage over the legitimate advertiser.

The nominating committee, through its chairman, Dr. Love of St. Louis, reported the following officers for the ensuing year: for President Wm. C. Wile, of the *New England Medical Monthly*; for Vice-President Dudley S. Reynolds, of *PROGRESS*; for Secretary and Treasurer J. C. Culbertson, of the *Cincinnati Lancet and Clinic*.

On motion the Association adjourned.
SCRIPSI.

AMERICAN
MEDICAL
ASSOCIATION.
Thirty-ninth Annual meeting held at Cincinnati, May 8, 9, 10 and 11, 1888.
Reported for *PROGRESS*.

The American Medical Association met at Cincinnati, Tuesday morning, May 8. After an address of welcome by the Mayor of the city, and by Dr. C. G. Comegys, on behalf of the profession of Cincinnati, Dr. W. W. Dawson, Chairman of the Committee of Arrangements, introduced the President, Dr. A. Y. P. Garnett, of Washington, who proceeded to deliver the annual address, and, as has been the custom from time immemorial, the question of medical educa-

tion was presented, to afford the essayist an opportunity to point out the degeneracy of the medical schools and the profession at large.

President Garnett thinks the medical profession is being rapidly over-crowded by incompetent and poorly qualified men. He believes the schools are entirely to blame for this. He thinks diplomas are no longer to be recognized as evidence of a sound medical education, and suggests the appointment of a special board of examiners to determine the qualifications of those seeking to enter the medical colleges as students, and especially of such as have already graduated from the colleges and seek to engage in practice.

It was painfully apparent throughout this address that the perfect methods of instruction provided at the time President Garnett graduated had long since been abandoned; that the high standard of qualification exacted of him was no longer to be found in any of the medical schools of the country; that competition had become so sharp that something must be done to preserve those distinguished gentlemen who came into the profession half a century ago against the dangers of failure in maintaining their hold upon the public confidence. Modern scientific research, it would seem, is looked upon as the common property of the profession, and the young men who graduate in colleges where instruments of precision are required in laboratory demonstrations, are not to be accounted nearly so well qualified as those who have been so long in the profession as to have acquired a sort of divine right to all scientific discovery without the trouble of studying its details or becoming familiar with any of its processes.

At the conclusion of this address, which embodied congratulatory references to the late International Congress, a resolution was adopted permitting the sections to meet at 11 o'clock in the forenoon.

Several unimportant communications to the Secretary were read and appropriately referred.

Dr. W. W. Dawson, Chairman of the Committee of Arrangements, made some announcements as to the place of meeting provided for the sections and the general nature of the entertainments during the meeting of the Association.

WEDNESDAY

MORNING, MAY 9.

The first regular business was the reading of an address on General Medicine by Prof.

Roberts Bartholow, of Philadelphia. This address was carefully prepared, and, like most of the others, was read in a monotone entirely inaudible to four-fifths of the audience. The usual sparring match about amending the constitution occupied the remainder of the session, and it was finally agreed to postpone further consideration of the matter until Thursday morning after the address on General Surgery. Meantime the Committee of Arrangements was, on motion, ordered to print in parallel columns the proposed amendments, and the original articles which it was proposed to amend.

Thursday morning, Dr. E. M. Moore, of Rochester, New York, read in a good voice a well prepared address on General Surgery, which seemed to delight the entire audience. It was evident Dr. Moore drew very much more from personal experience than from the literature of his subject. The question of amending the constitution, held over from yesterday, was called, and it was found the Committee of Arrangements had not complied with the order to print the original articles which it was proposed to amend, and so the matter went over to be finally considered at New York in 1889.

After a partial report of the Special Committee on Dietetics the following officers were announced by the Committee on Nominations:

For President, W. W. Dawson, M. D., of Cincinnati; for Vice Presidents, W. L. Schenck, M. D., of Kansas; Frank Woodbury, M. D., of Philadelphia; H. O. Walker, M. D., of Detroit; J. W. Bailey, M. D., of

Georgia; for Treasurer, Richard J. Dunglison, M. D., of Philadelphia; Permanent Secretary, Wm. B. Atkinson, M. D., of Philadelphia; for Librarian, C. H. A. Kleinschmidt, of Washington; Trustees of the Journal, E. M. Moore, of Rochester, N. Y.; J. H. Hollister, of Chicago, and J. M. Toner, of Washington; members of the Judicial Council, W. A. Philips, of Kansas; A. M. Pollock, of Pittsburg, W. C. Van Bibber, of Baltimore; James T. Hibberd, of Richmond, Indiana; C. S. Wood, of New York; J. M. F. Gaston, of Atlanta; W. H. O. Taylor, of New York; and George L. Porter, of Bridgeport. To deliver address at the next annual meeting, Wm. Pepper of Philadelphia, on Medicine; P. S. Cormor, of Cincinnati, on Surgery, and Wm. H. Welch, of Baltimore, on State Medicine. I could not get a full list of section officers, but I feel sure Kentucky will feel satisfied with her share of the honors. As a representative on the Standing Committee on State Medicine your distinguished sanitarian, Joseph N. McCormack, of Bowling Green, was chosen, whilst the Committee on Necrology is represented by the venerable Professor Henry M. Skillman, of Lexington. Dr. Wm. H. Wathen was elected Chairman of the Section on Obstetrics and Gynæcology; Dr. Wm. O. Roberts, Secretary of the Section on Surgery, and Dr. John A. Larrabee, Chairman of the Section on Diseases of Children.

The meeting as a whole went off smoothly and to the satisfaction of the majority.

There is a growing disposition to abandon the time-honored custom of conferring the presidential office as a mark of recognition of an honored career, a sort of compliment for high professional character, without reference to the qualifications to preside over the deliberations of the assembly. In a large national body something should be done to secure the services of a presiding officer able to conduct the business with dignity and dispatch. A good voice and some knowledge of parliamentary

practice, added to high professional character should be regarded as constituting qualifications above any sort of mere sentimentality. The majority of those who have done the work of this national body are tired of the awkward and unsystematic manner of bungling the business, and wasting the time of the association with absurd motions and aimless discussions. We want a servant able to execute the will of the majority in a decisive and prompt manner; and, if your reporter is any judge of indications, this much needed reform will soon be inaugurated.

The arrangements of Dr. W. W. Dawson's committees proved ample for the comfort and the pleasure of the two thousand in attendance. In fact, the whole profession of Cincinnati turned out with a hearty good will, and entertained this immense body in magnificent style, whilst individual lunches were prepared for personal friends.

Deserving of especial mention for courteous and generous hospitality were Dr. Joseph Ransohoff, Dr. Thad. A. Reamy, Dr. P. S. Connor, Dr. James T. Whitaker, Dr. W. W. Dawson, Dr. James F. Buckner, Dr. E. C. Judkins, Dr. N. P. Daudridge, Dr. C. G. Comegys, and others, in fact, the entire profession of the city.

The Burnett House was headquarters, and no more princely host than its well known proprietor, Mr. Thomas Zimmermann, could be found. He did not leave anything to his employees, but saw personally that every guest was both comfortable and happy.

Newport, Rhode Island is the next place of meeting.

SCRIPSI.

PROGRESS

A MEDICAL MAGAZINE. ISSUED MONTHLY.

DUDLEY S. REYNOLDS, A. M., M. D., EDITOR.

THOMAS C. EVANS, M. D., ASSISTANT EDITOR.

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VOL. II. LOUISVILLE, JUNE, 1888. No. 12.

PHARMACEUTICAL EXHIBITS.	The custom of exhibiting pharmaceutical preparations at the meetings of medical societies, aroused considerable interest at the meeting of the American Medical Association at Cincinnati. Dr. Brodie, of Detroit, proposed to exclude them from the halls at future meetings of the Association. The reason alleged for this was that, the majority of the members of the association, instead of attending the general sessions, lingered to inspect the articles displayed by pharmacists and instrument dealers. To suppose the members of a medical society have not enough intelligence to determine which is the most profitable to them, an inspection of new pharmaceutical preparations, new instruments, etc., or the annual tirade upon the medical schools embodied in the popular presidential address, or the awkwardly compiled account of recently published improvements in various branches of practice, is a more serious matter than Dr. Brodie at first seemed to recognize. In this day of demonstrative instruction, the medical schools are ably seconded by the manufacturing pharmacist and the instrument-maker in the exposition of the newest products in their several departments. It is true the sample packages distributed are often sufficient to tempt the honesty of a few mercen-
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ALLOPATHIC.	We frequently hear medical men, who ought to know better, making use of the word allopathic to distinguish the regular from the homeopathic physician. There is no allopathic school and there never was. hence the word is misleading; say <i>regular</i> or <i>scientific</i> .
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aty creatures; but surely this is no argument against the encouragement of that spirit of emulation which seems to pervade the pharmaceutical profession, medical publishers, and the manufacturers of instruments and surgical appliances. We had occasion recently to refer to the relation of the physician to his medical supplies, and we feel assured that, although an unnecessarily heavy tax is imposed upon the distributor of sample packages, the medical profession least of all have grounds for complaint. As to the injustice both to the medical societies and the exhibitors of having them both in the same hall, nobody will deny; but with the exhibits at a convenient distance from the assembly hall, there can be no question of mutual advantage and propriety. That some pharmaceutical houses have abandoned the field on account of the unprofitable nature of these displays, is no argument on the part of the medical profession attempting to discourage the continuation of this very popular attraction. Physicians who practice in the cities, it is true, would naturally feel less interest in these displays than those who practice in inland towns, hamlets, and at country places; but our Rural brethren ought to be provided with frequent opportunities to witness the latest products of the manufacturing pharmacist, and the newest devices in both instruments and appliances. Let the periodical displays of drugs, instruments and appliances be encouraged, and none of us shall suffer. There is, in fact, a sort of mutual dependency between the medical profession, the pharmacists and the manufacturers of instruments and other appliances. Let us rather encourage attempts at strengthening this dependency.

MISREPRESENTED.

The Celebrated Johann Hoff's Extract of Malt was introduced to the medical profession of the United States by Mr. Leopold Hoff, in 1866. For many years the

well known house of Tarrant & Co., of New York, has supplied the American market with the original and only genuine article, imported directly from Hamburg.

As time rolled on, the ingenious counterfeiter seems to have set about the work of replacing the original by an American product, alleged to be imported from Berlin.

A few days ago, Mr. Leopold Hoff called personally at this office with the documentary proof of the statements above. It appears that the bottled malt was originally shipped from Hamburg by Mr. Hoff. Later, it was found cheaper to do the bottling in New York, and to facilitate packing for distribution to the trade, Tarrant employed a bottle of more convenient shape.

The imitators of this Malt Extract, it appears, cunningly devised a bottle resembling the original style, and have had the impudence to point to their bottles as an evidence of genuine foreign importation, when, in fact, these bottles are, like their contents, base imitations.

Mr. Leopold Hoff is a gentleman, well known in this country, and PROGRESS takes pleasure in publishing the facts as stated by him.

KENTUCKY STATE
MEDICAL
SOCIETY.

The prospect for a large and profitable assembly July 11, 12 and 13 at Crab Orchard Springs is announced by the committee of arrangements to be very encouraging. With the multiplicity of duties Dr. E. R. Palmer, Chairman of the Committee of Arrangements, finds it difficult to arrange the programme, and has issued a circular letter inviting all those who contemplate reading papers to send him titles at once.

It is necessary that titles of all papers to be read should reach Dr. Palmer by the 1st of July to enable him to be ready by the 11th, the date fixed for the meeting.

PUBLISHER'S DEPARTMENT.

ROGERS-TULEY COMPANY, Publishers.

Address all matter relating to this department to the Publishers, 235 and 237 Third Avenue.

The Publisher's Department of PROGRESS is designed to afford the Business Editor proper space, in the regular order of our system of classification of the text, for such notices and comments as he may feel inclined to make of meritorious articles, and such items of news as may seem to him best calculated to interest the readers.

No house will, therefore, be able to purchase space in this department.

DIPHTHERIA

AND SCARLET

FEVER.

Referring to the management of Zymotic Diseases, especially Diphtheria and Scarlet Fever, Dr. I. N.

Love, of St. Louis, emphasizes his methods of local treatment; and reaches the following conclusions:

"I have found Listerine very valuable in the management of diphtheria as a gargle, but most frequently as a spray (diluted with about four or five parts of water); it cleanses the diseased surfaces and removes the unpleasant odor and taste of the secretions from the throat of the patient. In nasal diphtheria (and pharyngeal as well) by adding it to hot water and applying with a syringe through the nostril (using gentle force only), directing the patient, if he is old enough to understand, to hold the accumulating fluid in the throat for a moment and then expell it. If it should be accidentally swallowed even in liberal quantities, no harm will result, but benefit will accrue to the setitive alimentary tract. If the patient should unfortunately be incapable of acting on the instructions given above, a few drops may be applied to the nostrils by means of a medicine dropper and thus allowed to slowly percolate over the inflamed surface of the nasal and pharyngeal mucous membrane.

To secure fluidity and free exit of dischargess from the nose, melted vaseline (incorporated with boracic acid) may be applied in the manner above indicated and in

conjunction with the Listerine. Any one who has witnessed the demoralizing effects of the accumulated secretions in nasal and pharyngeal diphtheria, can appreciate the value of remedies which obviate or mitigate the trouble.

I consider Listerine of very great value in scarlet fever, as well as in diphtheria, and for similar reasons.

As an aid to the securement of the personal prophylaxis of scarlet fever, it is my practice to have the patient sponged off daily with diluted Listerine. By such procedure the question of contagion is almost eliminated during the desquamation period, and, in consequence of the component parts of Listerine, it relieve the itching and irritation of the skin, so frequently present, induces a refreshing after-effect, thus adding to the personal comfort of the patient, a matter of no small importance."

NEWSPAPERS IN 1888.—From the edition of Geo. P. Rowell & Co.'s "American Newspaper Directory," published April 2d (its twentieth year), it appears that the newspaper and periodicals of all kinds issued in the United States and Canada, now number 16,000, showing a gain of 890 during the last 12 months and of 7,136 in 10 year.

The publishers of the directory assert that the impression that when the proprietor of a newspaper undertakes to state what has been his exact circulation, he does not generally tell the truth is an erroneous one; and they conspicuously offer a reward of \$100 for every instance in their book for this year, where it can be shown that the detailed report received from a publisher was untrue.

FAIRCHILDS & Co's. Tablet's of Pancreatic Pepsins and their various combinations are convenient and reliable in the treatment of gastric and intestinal disorders of the atonic form.

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